If Not Walmart, Then What?

Envisioning a Different Paradigm for Local Economic Development in Roxbury and Somerville

The 2012 Practical Visionaries Workshop, Field Projects Team:
Lenz Bayas, Lauren Cole, Jonathon Feinberg, Caiti Hachmyer, Jesse Seamon;
Tufts University, Department of Urban Environmental Policy and Planning

Prepared for: The 2012 Practical Visionaries Workshop, Steering Committee: Alternatives for Community and Environment (ACE), Boston Workers Alliance (BWA),Dudley Street Neighborhood Initiative (DSNI), and The Somerville CommunityCorporation (SCC)

Table of Contents

Section 1

The Story of Walmart: Understanding the Dominant Economic Model

Section 2

Changing the Story: Building New Economic Models

Section 3

Envisioning More Just and Sustainable Local Food Economy

Appendices

List of Tables and Figures

Foreword

The work presented here is an outgrowth of Tufts University's 2012 Practical Visionaries Workshop (PVW). This workshop "brings together graduate students and emerging community leaders to reflect, learn, and share with one another and conduct projects around current issues and challenges to our community" (syllabus, 2012). As a space where practitioners and students can come together to discuss theory and practice as one entity, Tufts University students were joined by community organizers from Alternatives for Community and Environment, Dudley Street Neighborhood Initiative, Somerville Community Corporation, Chelsea Collaborative, Groundwork Somerville, Community Labor United, and the Boston Workers Alliance.

During the summer of 2011, controversy erupted over Walmart interests in building grocery stores in the greater Boston communities of Roxbury and Somerville. Proposed as a source of both jobs and access to affordable foods, the company is blatantly trying to expand into urban markets around the country. A number of community organizations in the Greater Boston area have been discussing potential alternatives to the corporate giant. Therefore, the theme of this year's workshop, "Community Strategies for Building New and Localized Economies," was centered around considering new economic models for community development. As a group, we were tasked with investigating the idea that, "if Walmart represents one model of the globally unsustainable and inequitable economy, what would more localized, community-controlled models look like, and what steps need to be taken to begin to grow these alternatives?" (syllabus, 2012) The following visions are the result of this investigation.

This year, the Field Projects Team was fortunate to work with The Earthos Institute Urban Design Interns, whom were instrumental in transforming our theories and ideas into tangible and compelling visuals. The Design Team is comprised of Boston Architectural College students, and lead by Sarah Howard, Executive Director of the Earthos Institute.

It should be mentioned that the PVW is in its second year of operation. The workshop is receiving direction and focus from a Steering Committee, which is comprised of Professor Penn Loh, and leaders from the aforementioned community organizations. It is important to emphasize that the contents of this document represent a truly iterative and collaborative process. Next year's workshop will feed off of and develop this work. Therefore, it is our ultimate goal that readers will be able to interact with the material by identifying "gaps" for future research and dialogue, by thinking about ways the information presented here may or may not be useful to the broader community, and at the very least, by spurring some engaging points of debate.

Acknowledgements

A special thanks goes to all the PVW participants, who took the time out of their busy work schedules to participate and engage in dialogue around transformative community change. Special thanks goes to Travis Watson, Cris Lagunas, Cecily Harwitt, Mashael Majid, Ronald Leaks, Diana Bell, Jiovanna Garcia Soto, Daniel Mojica, and Lisette Le for insightful direction.

Without the help of the Design Team, our visions and goals of this project would be little more than words on a paper. Special thanks goes to Eyob Gurmu, Daniel Zeese, Michael Lafontant, and Nayef Mudawar who devoted many hours to making our visions come to life, and who always handled themselves with grace and humility.

To all the interviewees, your willingness to participate and offer your expertise greatly added to the depth and breadth of this document.

Thank You to Dalen Butler (City Center Market Food Co-op), Douglas Walter (Davis Food Co-op), Jenny Silverman (Dorchester Food Co-op initiative), Chris Durkin (Harvest Food Co-op), Joel Wool (Dorchester Food Co-op initiative), Gordon Edgar (Rainbow Grocery Co-op), Jane Caruso (Sonoma Compost), Barry Henderson (Green for Life), Alex Pepali (Clean Water Action), Cris Lagunas (ACE), Ross Danesh and Irene Zeppieri (City of Toronto's Solid Waste Management Services).

A very special thanks to the steering committee members, who have inspired many towards better futures, and been experts in fairness and equality within their communities. The steering committee is comprised of Meredith Levy of Somerville Community Corporation, Kalila Barnett and Cris Lagunas of Alternatives for Community and Environment, Harry Smith of Dudley Street Neighborhood Initiative, and Aaron Tanaka of the Boston Workers Alliance.

Finally, it is with infinite gratitude that we acknowledge Emily Earle, our wonderful TA, and Professor Penn Loh, who have both been very patient, willing, and deeply inspiring throughout the process. The PVW is a tremendously unique space which has provided us with the forum to "practically vision," beyond any constraints or bounds of the dominant economy. This workshop is truly a testament to how dedication and passion can serve as the foundations for positive social and environmental change.

Introduction

The last decade has been characterized by tumult. A massive economic crisis has left millions homeless, hungry and financially unstable. Thousands have taken to the streets to protest an ever increasing wealth-gap and a growing structure of cyclical inequality. It seems as though the political and economic climate of the past forty years has woven social systems - like food, education, housing and healthcare - into a dense thicket of regulations and legislation, near impossible to unravel. The desire for change is palpable and the need is felt in both global and local contexts. We believe there are structures beyond the dominant economic paradigm that can better meet community needs, promote social justice, and build environmental sustainability.

Set in this context, this document is not meant to further detail the downfalls of the current situation, as much as lay out a theoretical framework for abating these challenges through a transformative, systems-based approach. However, in order to build this framework, a thorough understanding of the dominant economic model is critical.

We recognize that it is not an easy to think and talk about the current economic structure, or contrasting values such as sustainability, equality, and empowerment. Thus, the main focus of this document is to convey these ideas and theory in the most accessible way possible. We believe that understanding economic theories and transformative approaches to life should be a right for all, not a privilege of the few.

The document to follow is structured by three overarching themed sections, with supporting chapters under each. The first section: Understanding the Dominant Economic Model, walks readers through a narrative of our current economic structure. The second section: Changing the Story- Building New Economies, looks at a different value system, termed Solidarity Economy. This section outlines what different economic models can mean for human, environmental, and economic prosperity. Finally, section three: Envisioning a More Just and Sustainable Economy, looks through the lens of both a troubled community food system and the Solidarity Economy, to address the lack of healthy food and healthy jobs in Somerville and Roxbury.

Using Walmart as the focal point, chapters within section one illustrate the mainstream approach to community economic development reigns. Through stories and fact boxes, we explore the focus on shareholder profits and the linear path from food production to landfills. Next, we elaborate on the concepts revealed in these stories through a theoretical discussion of the Walmart model. We reveal that Walmart does not provide the community economic development they claim to foster, nor do they adhere to the environmental tenants necessary for sustainable transformative change.

Chapters in section two of this document will explore the significance of a systems-based approach to the economy through the Solidarity Economy framework. Just as in the case of section one, fictional stories are used to illustrate the economic and social transformations possible within this this model. These stories are further explicated through a discussion of what a cooperatively-based economic structure looks like within a community.

In order to more directly compare the dominant economic model to the Solidarity Economy framework, we looked at each framework through the lens of the same Six Economic Factors. You will see these factors pop up in different ways throughout the document, so feel free to refer back to these definitions (also in Glossary) for any clarifications on word choice or meaning. The Six Economic Factors are as follows:

- **Ownership** – Who owns the means of production (non-human inputs, public capital and natural capital) and how does this relate to people's incomes, investment in their work and economic responsibilities?

- **Division of Labor** – What defines the structure of labor? Are people empowered or disempowered through this structure?

- **Remuneration** – How is compensation structured?

- **Decision Making** – Who has a say in decisions and do all persons have a say in decisions proportionate to the degree they are affected by outcomes?

- **Guiding Values**– What are the company priorities? Is growth and profit the bottom line or is sustainability and stability the primary goal? How much of the local community's values and priorities are taken into account?

- **Sustainability** – Are the frameworks of these approaches constructed by the three tenants of being socially just, ecologically sound and economically viable? Do businesses act in the interest of future generations?

Situated in between sections two and three lies a description of Food Systems. At the foundation of this narrative vision rests the notion that the only future able to persist is one built on the principles of sustainability. Though there may not be one clear or 'correct' path, we advocate for building integrated systems in our society that account for the three key tenets of sustainability. At their core these systems must be socially just, ecologically sound, and economically viable. Without building on these three pillars we believe any system will eventually collapse. The concepts of sustainability are inherently grounded in the description of Food Systems, and can be used as a reference for thinking about other aspects of the local economy.

Finally, in order to directly address the issues of food and jobs, chapters in section three of this document will present potential scenarios in which a systems-based approach is applied to the local food systems of Roxbury and Somerville. These communities are both current targets in Walmart's plans to exploit urban landscapes, and both are building coalitions aiming to shape different futures. With consideration for the contexts of these communities and the context of the greater Boston area, a vision for two facets of this potential food system is imagined.

This includes food distribution through a cooperative grocery store, and the processing of organic waste materials into fertilizer and energy for the community. Steps in the creation of these facets of the system will be assessed through political, economic and social lenses. This is meant to provide a vision for how the food economy *could look* framed by the guiding values found in the Solidarity Economy, rather than how it necessarily *should or will look*. Throughout the document, you will find text boxes which highlight key points and/or provide factual context. These are meant to stimulate readers by highlighting points which organizers and residents can talk about in terms of their own communities.

Section 1. The Story of Walmart: Understanding Dominant Economic Models

Chapter 1:
The Stories of Mary, Bob and Christa

The following stories, although fictitious, are used to illustrate real experiences and processes felt by individuals who interact with urban Walmart Supercenters around the US and abroad. The stories of Mary, Bob and Christa are followed by an explanation of how Walmart's business structure is a model for 21st century dominant economics.

Mary Johnson, 34, Walmart Associate, Mother of Two, Chicago, IL

Early one morning, Mary balances her checkbook and cannot help but feel overwhelmed with stress; her monthly bills, which include rent for her Chicago apartment and day care for her children, have once again drained her entire balance. Mary's life has become like running on a treadmill: always moving but getting nowhere, and so she anxiously bites her fingernails trying to find a solution. Before long, however, she checks the time and realizes she has to move on with her day. With her shift at Walmart starting soon, she scrambles to get her sons ready for daycare and rushes out the door. Mary Johnson is 34 years old, and has held the same Associate position at the nearby Walmart Supercenter for the past two years. Despite maximizing her work hours and seeking out government assistance, Mary has been unable to find solid ground for her family. She cannot believe how much harder it has become to provide for her family since changing jobs. As she rides the bus to work later that morning, she reflects on her transition to working at Walmart, and finds a new appreciation for the hard work her father put in to provide for her growing up.

Mary is a native of Chicago, raised by her father just a few buildings down from her current apartment. She had a relatively happy childhood, filled with memories she looks back on with fondness. Growing up, she spent many days at her father's grocery store, Food Plus. She liked to sit up on the front counter while her father ran the cash register, enjoying her father's delicious strawberries and entertaining herself by waving to customers as they entered the store. Mary could clearly remember the pride she felt for her father as the store filled up with customers.

Located in a neighborhood in need of grocery stores, Food Plus was a profitable local operation, and Mary always planned on joining the family business when the time came. As Mary grew into an adult she joined her father's team as the fresh produce manager, and was glad to receive a salary sufficient to raise her two baby boys alone. Not long after she began her managing position at Food Plus, however, business began to plummet due to new competition in the neighborhood; a Walmart Supercenter had recently opened for business. Although he reduced his prices as much as possible, Mary's father could not compete with Walmart on produce. Ultimately, he lost his store as a result.

The fact that Walmart put her father out of business and her out of a job angered Mary. However, her immediate need for a job, any job, soon became her top priority as she struggled to support her children. When Mary heard that the Walmart Supercenter was still hiring, she was interested—she needed a new job, and she heard that they were becoming a leader in environmentally friendly business practices. Maybe Walmart would help her advance her career? Given her experience at Food Plus, she applied for an Associate position at the grocery

section, and was hired right away. While she had to take a lower wage, Mary was still grateful for the stable income and affordable food prices that Walmart offered her.

Mary's reflections on her transition to Walmart are cut short when her bus pulls into the Walmart parking lot. She is relieved to be on time for work, but when she enters the produce section to start her shift she is soon stressed again. As she checks the newly stocked produce in from the night before, she notices a new price for strawberries. These strawberries are priced significantly less per package than any she had seen before. After working at Walmart for two years, Mary knows what is to come with these low prices. She braces herself for a tough day ahead of restocking picked-over strawberries.

Unbeatable Prices

The high level of consumer interest in Walmart's strawberries that day, foreseen by Mary, is mainly due to Walmart's low prices. Food prices at Walmart are typically 15% less than those in conventional supermarkets (Fishman, 2006).

Very close to the strawberry display, hangs a sign, and Mary had time to read over again and again while she restocked that day:

"Walmart is committed to sustainable agriculture. Here's just a few ways in which we are doing our part:

1. Reducing Plastic in Packaging: We have committed to lowering packaging needs for produce by 5%; Therefore, thousands of pounds of plastic will be saved from use each and every day.

2. Increasing Organics: We are proud to provide a diverse array of organic produce, and we are working to double the amount of organic food we carry.

3. Increasing Local Produce: We are committed to locally-grown produce, and are working to double the amount of locally grown produce we provide"

While Mary is unhappy with some of her job duties (like restocking strawberries), she thinks of her two children, and is happy to be working for a company who is thinking of the environment.

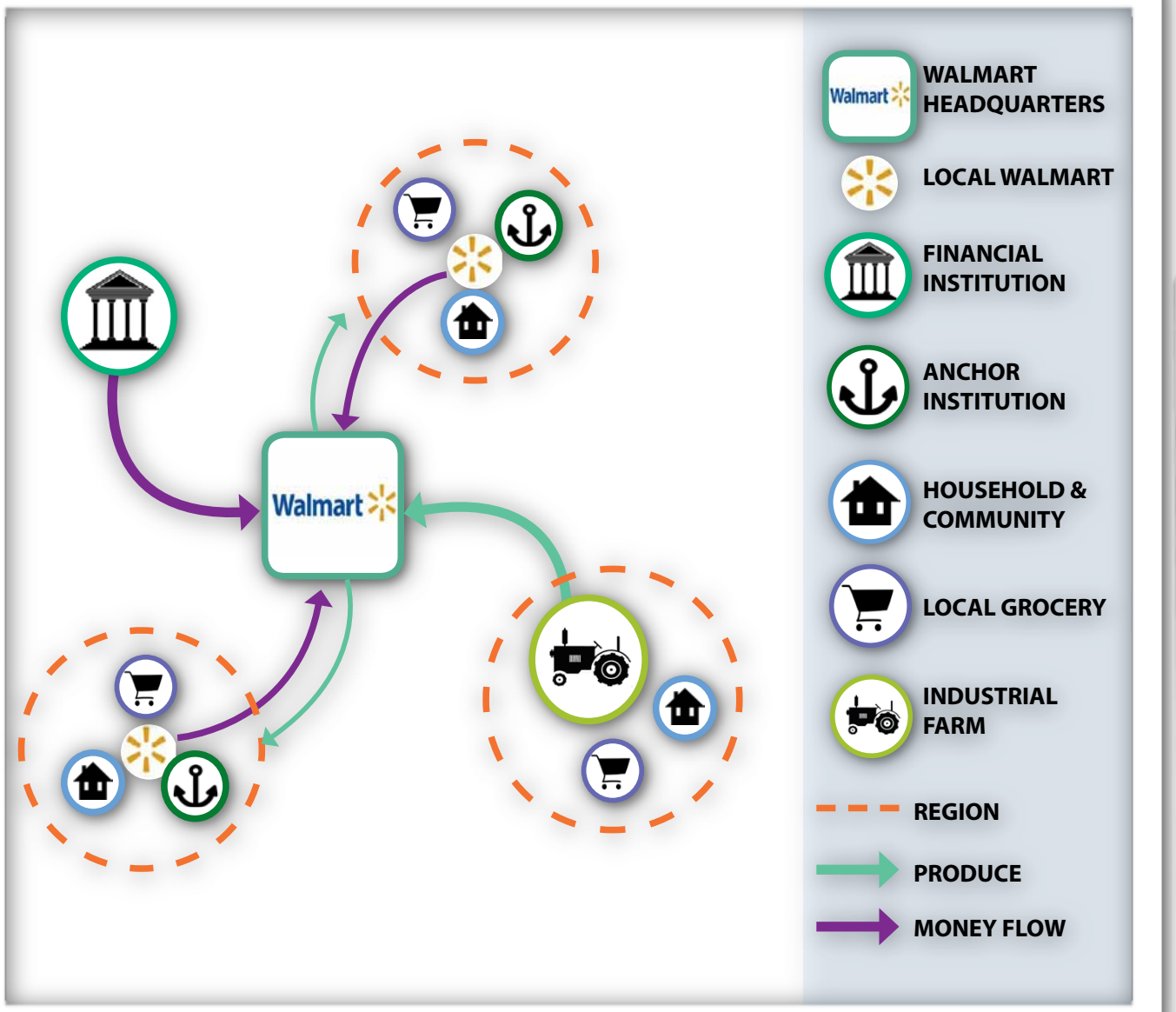

Figure 1: Conceptualizing the Walmart Economy (Submitted by Earthos Design Team)

FIGURE 1: Conceptualizing the Walmart Economy

The above diagram shows how money flows from various regions, directly to the Walmart Headquarters (pictured in the center of the graphic). Walmart does this by controlling the markets through extreme purchasing power, and charging consumers lower than market prices. In addition, Walmart gets its produce from large-scale industrial farms that tend to utilize harmful chemicals, and put smaller farmers out of business. It is apparent that in the Walmart business model, streamlining andWalmart efficiency are major tenets of operation, as opposed to community or environmental sustainability, which would depict money and produce circulating within each given region.

Bob Jones, 55, Produce Supplier, CA

Why So Cheap?

The day before Mary's shift at Walmart, Bob Jones sits in his California office hunched over his computer. Bob's stress level rises as he uses a map on his computer screen to determine which of his produce shipments that departed his California distribution facility two days before are going to be late on their delivery that afternoon. On Bob's map is a series of blue dots, (representing shipment destinations) and red dots (representing real-time locations of his delivery trucks). Bob is particularly worried about one of the red dots, a Chicago-bound strawberry shipment that is going to be especially late. When those strawberries are not in the Chicaco store's produce section at 5pm, he will have hell to pay with Walmart. As he watches the Chicago-bound strawberry shipment move slowly across Illinois, he dreads the phone call that will inevitably come from his Walmart liaison later that day, inquiring about the late shipment.

Accountability

Walmart requires most of their suppliers, like Bob, to attach to their cases of goods certain GPS tags called radio frequency identification technology (RFID). These tags are designed to transmit real-time location data from delivery trucks to both suppliers as well as to Walmart headquarters (Lichtenstein, 2006).

Bob knows that he will probably have consequences to pay for running behind schedule, and there is nothing he can do about it. Walmart purchases the majority of Bob's produce, and so his top priority is to keep them happy with his services. One simple decision by his liaison to stop using his distribution company, and Bob might go out of business altogether. Out of fear of this possibility, Bob has conceded to numerous demands from Walmart.

Squeezed Suppliers

Bob's acquiescence to his liaison's demands, due to the retailers' buying power, is illustrative of many suppliers' relationships with Walmart. Every financial hit that Bob was forced to take (packaging and price reductions as well as technology improvements) have been revealed by a number of suppliers, such as the bicycle supplier Huffyand the pickle supplier Vlassic
(Fishman, 2006; Lichtenstein, 2006).

The specific case of Vlassic's relationship with Walmart illustrates just how extreme this squeezing effect can be. In the late 1990's, Wal-Mart sold 1-gallon jars of Vlassic pickles for $3.00. To increase sales, Walmart demanded that Vlassic reduce their prices so that Walmart could pass on the savings to their customers with a $2.97 price per jar. Vlassic had no choice but to take the financial hit, and as a result the company's profit fell to about one cent per jar.
(Food, 2012)

http://www.sheknows.com/food-and-recipes/articles/810453/the-joy-of-pickling

A few months back, Walmart "strongly suggested" that he: 1. use lighter packaging for his strawberries; 2. install on his produce cases RFID tags (see fact box); and 3. lower his price per case of strawberries. Bob conceded to all of these "suggestions." What would be next? Bob knew he could not afford to do any more to satisfy his client.

In order to accommodate Walmart's price and volume demands on produce, Bob recently upscaled his business by acquiring a regional competitor. Although he now has enough capacity to meet Walmarts' demands (for now), his strawberry growers lack the capacity to provide him the volume and price he needs to meet those demands. With the intention of pressuring his strawberry growers to upscale like he has, Bob picked up the phone to call Christa, his main strawberry grower at Valley Farms out in California.

Christa Jordan, Strawberry Farm Manager, Valley Farms, CA

Christa Jordan sits in her office going over paperwork for the Valley Farms strawberry field that she manages in the Central Valley of California as her phone rings. She sees that it is Bob calling, her largest customer for both conventional and organic strawberries , and she immediately feels a sense of dread. Christa knows Bob is about to make a series of demands to increase her yield and lower her prices (like he has done many times before), and Christa will have no choice but to accept these demands. This is because, since his latest consolidation, Bob's company is now the only strawberry buyer within a reasonable distance from her farm; she simply cannot afford to transport her strawberries to the alternative buyers many miles away. By the end of Christa's conversation with Bob, she bows to his demands to upscale her operation and lower prices, even though she does not know how she will be able to afford it.

Christa's talk with Bob put her in a fowl mood, and it got her thinking back to better days when strawberry growing was a different kind of business in the United States. She remembered accompanying her father as a child to the annual U.S. Strawberry Growers Association

Squeezed Farmers

The consolidation of food suppliers like Bob is limiting purchasing options for farmers like Christa all over the US agricultural sector (Food 2012). This trend is well illustrated by the development of grain suppliers in the US over the years. Over the past two decades, the top four grain suppliers in the US have all grown in size, controlling an increasing percentage of the grain market (currently over 63%). With less grain suppliers in the market, many farmers are limited to only one viable customer because the nearest alternatives are over 100 miles away (Antitrust, 2008; Montana, 2007).

Buffalo Grain Elevators
http://www.buffalorising.com/2010/12/photo-exhibit-to-celebrate-buffalos-grain-elevators.html

Is Walmart Really Sustainable?

Referring back to the sign on sustainability that was helping Mary get through her day, What do we think about it? Their sustainability pledges sound pretty good, but are they true?

1.) Reducing Plastic in Packaging: What Walmart's waste reduction pledge does not say is that Walmart limits their waste reduction improvements to when it is convenient (i.e. when distributors like Bob will pay for it). As a result, generally only relatively small improvements are actually made, such as Walmart's stated pledge to cut packaging by 5% by 2013 (Food, 2012).

2.) Increasing Organics: Organic produce at Walmart is, on average, 19.1% cheaper than organic produce from other supermarkets; this makes it an attractive option for many consumers (Kastel 2006). In this instance, Walmart's commitment to "organic" food is actually authentic, as Walmart is already the largest seller of organic produce in US. But what the sign does not convey is the myriad problems inherent in industrial-scale organic agriculture (Food, 2012).

To most organic farmers, organic agriculture is about environmental and human health. As a result, the use of synthetic pesticides is avoided, as are large-scale applications of synthetic fertilizer, as well. However, the industrial-scale organic agriculture that Walmart endorses is not focused on these core values, but instead solely focused on technically meeting the definition of "organic" set by the USDA. For organic crops that are prone to disease and require a high level of nitrogen, such as strawberries, a variety of practices that are harmful to human and environmental health are allowed by the USDA's definition. For example, it is allowable under USDA regulations to apply pesticides on organic crop plants before they bear fruit, and it has been determined that a number of industrial-scale organic produce operations have been spraying their crops with pesticides. Even more commonly, large organic farms blanket their nitrogen-sensitive crops with fertilizer, which often results in nitrogen runoff, polluting nearby water tables (California, 2010; Care2, 2011).

3.) Increasing Local Produce: The local produce sign suggests that Walmart is genuinely committed to buying more in-state produce, but when put into context, this is shown to be false. If you read the fine print, you will notice that the doubling commitment would only reach 9% by 2015, and that percentage is an average of produce sourcing across all stores. This means that the stores in key agricultural states, such as California, Texas and Florida, can easily increase their share of in-state produce at no extra cost, and as a result skew the overall average across all stores nationwide to meet their pledge. Walmart's supply chain structure, as elucidated above with Christa's large, out-of-state strawberry operation, does not allow for local agriculture outside of convenience; the local farms in most states cannot provide the volume that Walmart demands (Food, 2012).

Overall, Walmart's sustainability pledges are mainly an emphasis on the less-harmful environmental practices they are adopting in pursuit of their original business plan of minimizing costs. As a result, there is no room for sustainability in Walmart's guiding values, which parallel the dominant economic model. Chapter 2 of this document, "Dominant Economics," revisits the issue of sustainability in terms of the Six Economic Factors identified in the introduction. Before jumping ahead, let's first take a look at the more localized effects of Walmart's operations at the community level.

meeting, where there would be farms of all sizes representing many states throughout the country. These days, the meetings consist mainly of very large producers like herself, with domestic operations almost entirely exclusive to California and Florida, and with sourcing mainly to large grocers like Walmart.

What do these stories reveal so far?

The journey of Mary's strawberries-- from Christa's farm on to Bob's distribution center and ultimately to the Walmart in Chicago, illustrates that Walmart consistently squeezes money out of the supply chain towards itself. Walmart places the cost of improvements on to suppliers like Bob. In turn, these suppliers force farmers like Christa to lower prices, which cuts into the farmers' profit margin. As a result, farmers will in turn pass on these cuts to the farm workers. The supply chain is a lean one, focused on getting products to Walmart shelves with the cheapest possible price tag.

Returning to Mary's Shift at Walmart

Now that we have illustrated Walmart's supply chain, let us return to Mary's day at the Walmart grocery section in the West Side of Chicago to illustrate the more localized effects of Walmart's operations.

Upon reorganizing the strawberries for the third time that day, when Mary's manager came through her section, she approached him to share her insights and to suggest that they order a larger shipment next week. Mary was appalled, however, when her manager told her to stop wasting his time with her opinions. Mary went back to work feeling powerless over her job. Overall, Walmarts' management structure (further described in chapter 2) is based on the dominant economic framework and does not provide room for input from Associates.

At lunchtime, Mary sits down with her friend and expresses the worries that have been on her mind all morning. She explains that she has felt stuck doing mundane tasks, while earning a lower wage than what she was used to. She also expresses concern that she is not allowed to work enough hours per week to be eligible for health insurance benefits through Walmart. As a result, her net income is now insufficient to meet the needs of her family, and she feels forced to look into the Illinois Medicare and Food Stamp assistance programs. Overall, Mary feels very disempowered.

Where Are the Benefits?

Mary's struggles to support her family while working as an Associate at Walmart is illustrative of the challenges that millions of Walmart Associates currently face. Working in discount retail provides low road jobs for folks in general, but at Walmart, Associates suffer an even worse fate than the norm.

Nationally, two-thirds of workers at large firms receive health insurance through their employer. In contrast, Walmart provides only 41-46% of its Associates with health insurance.

This is mainly because many Associates, like Mary, are limited to working 33 hours per week or less (34 hours per week is required to qualify). Even if Mary was allowed to work that extra hour to qualify for health insurance through Walmart, shemight not be able to afford it. This is because Walmart Associates spend as much as 45% of their annual wages to pay for their coverage.

(AFL-CIO, 2003; Graham-Squire, 2011).

Mary's coworker has similar frustrations to vent with her, and he has a plan to do something about it. He shows her a union-forming petition he had created, and Mary signed it in hopes that it would lead to better working conditions. However, when Mary returns to work, her manager approaches her and tells her, seemingly out of the blue, that there are plenty of Associate applicants available that will not worry themselves with unions. Mary takes this as a threat; he must have overheard her conversation. She becomes very nervous about losing her job.

By the time 5:00pm rolls around, it is technically time for Mary to leave but she still has a lot of work to do. The fresh produce section is simply too much work for her and her coworker to manage alone, but Mary's repeated requests for a third Associate in her section have gone ignored. Mary's manager has been very clear that the time to go is when the work was done, yet he also stressed that she could not clock more than 33 hours per week. As a result, Mary works unpaid hours every week out of fear of losing her job (AFL-CIO, 2003)

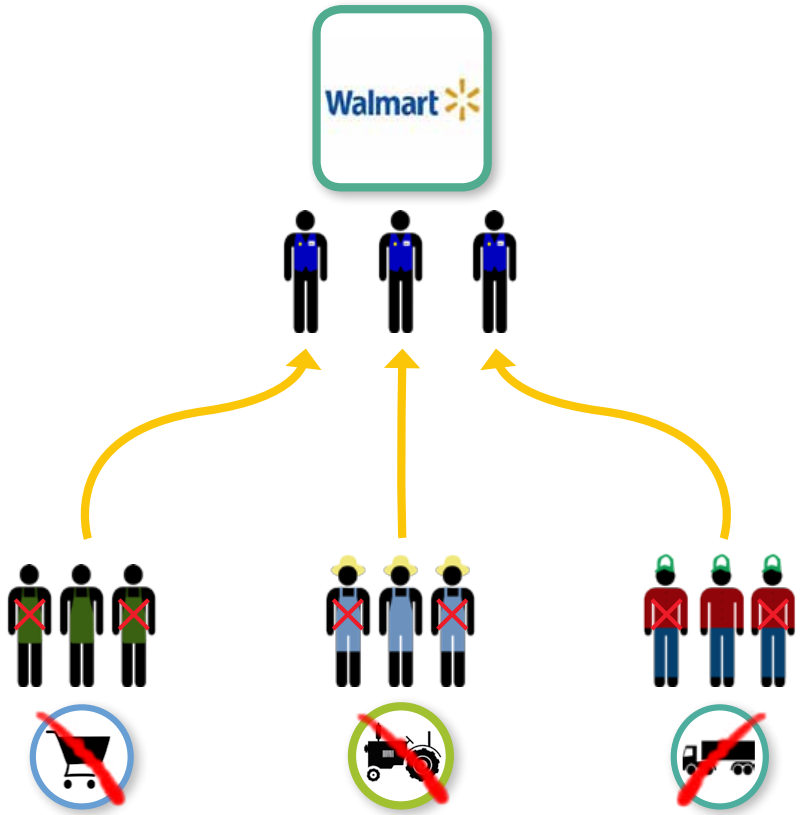

Figure 2: Job Gains, Job Losses (Submitted by Earthos Design Team)

Local Community Effects

Mary's last task of the day was to take the produce waste out to the dumpster. This produce waste (such as rotten strawberries that originated from Christa's farm) was grown almost entirely out of state, but she knew it would end up in the local landfill, ultimately being a pollution risk to local residents. As she lifted the trash bin lid, she also thought about all her friends in the neighborhood who have been losing their jobs. Was there a connection?

Case Study: Chicago

The Chicago Walmart Supercenter mentioned in Mary's story actually exists, having entered the city in 2006. Research on the local effects of this store found that for every two employees hired, three jobs were ultimately lost in the Chicago area (Baiman, 2009). Instead of increasing Chicago's economic activity, Walmart simply shifted that activity towards itself. A consequence of this lack of economic growth for Chicago is that the Supercenters' addition to the city did not provide any increase in the city's net tax revenue; in contrast, tax revenue actually declined after Walmart came to town. This has meant that the city has had less funds to use towards government programs and initiatives to help create healthy jobs, healthy food access, and sustained community-level support.
(Mitchell, 2010).

Chapter 2:
Dominant Economics

No other company in the world better exemplifies a corporation's place in the dominant economy than Walmart. As a result of its self-focused growth strategy, the corporation has saturated most of the suburban market in the United States, and has recently attempted to continue growth by tapping into new markets. Their latest strategy has been to enter urban areas with their own version of supermarkets, called Walmart Markets. This new business strategy hit home to residents of the Greater Boston area last year, when Walmart announced its intentions to enter the communities of Roxbury and Somerville. The struggles experienced by Mary, Bob and Christa described in Chapter 1 illustrate trends within the company that are a direct result of the guiding values of the corporation. Through the lens of the Six Economic Factors as identified in the introduction, we can better understand the guiding values associated with the dominant economic model of which Walmart is a part.

1. Private **Ownership** (concentrated in the hands of the few): In the dominant economic model, private ownership filters profits to the "guys at the top." Ownership is a means of power, as the individuals or corporations who have the most capital, or money, have a say in the production and distribution of the goods that are consumed in the economy. This is clear in the stories highlighted above. Namely, because they have control over the flow of money, Walmart headquarters can make demands on distributors and growers (Albert, 2004).

2. *Hierarchical* **Division of Labor:** Quite common in the dominant economic model, is the way jobs differ vastly from each other in terms of empowerment and quality of life effects. Individuals that are subject to discrimination, typically have low levels of marketable skills, and little formal education. These people are often limited to powerless and dangerous occupations. For example, while Mary had practical experience managing a grocery store, she was still stuck doing mundane tasks around the store, with no room to express her insights and advance her career. On the other hand, individuals who have the ability to pay for formal educations and job trainings tend to have higher empowerment and quality-of-life jobs. This division of labor seems to reinforce an "hourglass" economy, in which those at the top and bottom of the labor market have little intersection with one another (Albert, 2004).

Consider...

While it is somewhat easy to visualize private ownership on a large scale, (like Walmart), what does this mean in terms of smaller, privately owned businesses in our communities? What conclusions can we draw, if any?

3. **Remuneration** *Based on Ownership Status:* In the dominant economic model, an individual's level of payment is based on two things. First, it is based on their personal production in the form of a wage or salary. In most cases, owners make exceedingly more than laborers or non-owners. Second, it is based on what their assets or property produces, such as dividends gained from one's own stock in a company (in most cases, you must own an asset in order to make money off of it). By comparing the pay and total wealth of Mary, Bob, Christa, and Walmart headquarters, we can visualize how drastic the remuneration disparity can be when based on ownership status! (Albert, 2004).

4. *Undemocratic* **Decision-Making**: In the dominant economic model, average workers are generally given very little say in how the company they work for operates, and this is in line with their level of pay and non-owner status. Conversely, those that make the important decisions within their businesses are the most powerful players within the economy and within the government. For example, Walmart being the wealthiest corporation in the world has the ability to persuade government and legislation simply through their purchasing powers. A single laborer, on the other hand, simply does not hold the same amount of power (Albert, 2004).

5. **Guiding Values**: As laid out in the first four points, the dominant economic model relies on a very straightforward and specific set of guiding values. The emphasis on private ownership, division of labor, remuneration and decision-making structures are all based on one thing: increasing profits. Embedded in this ultimate goal are the ideas of efficiency and growth. For example, in order to make the most money possible, businesses must pay the least money, while selling the most goods and services (Walmart's strawberries). The idea of growth allows businesses to capitalize on profits and expand their operations, in order to generate more and more profit (Albert, 2004).

6. **Sustainability**: In the dominant economic model, nature is often seen simply as a resource to be exhausted in order to make profit. In this way, environmental costs (such as polluted air and water) must be paid by communities and society at large. While businesses and large corporations are being held more accountable for their negative environmental impacts, the guiding values of the dominant economic model (increasing profits by capitalizing on efficiency and growth), does not inherently support sustainability initiatives. In this model, people and the environment are secondary to profitability (Albert, 2004).

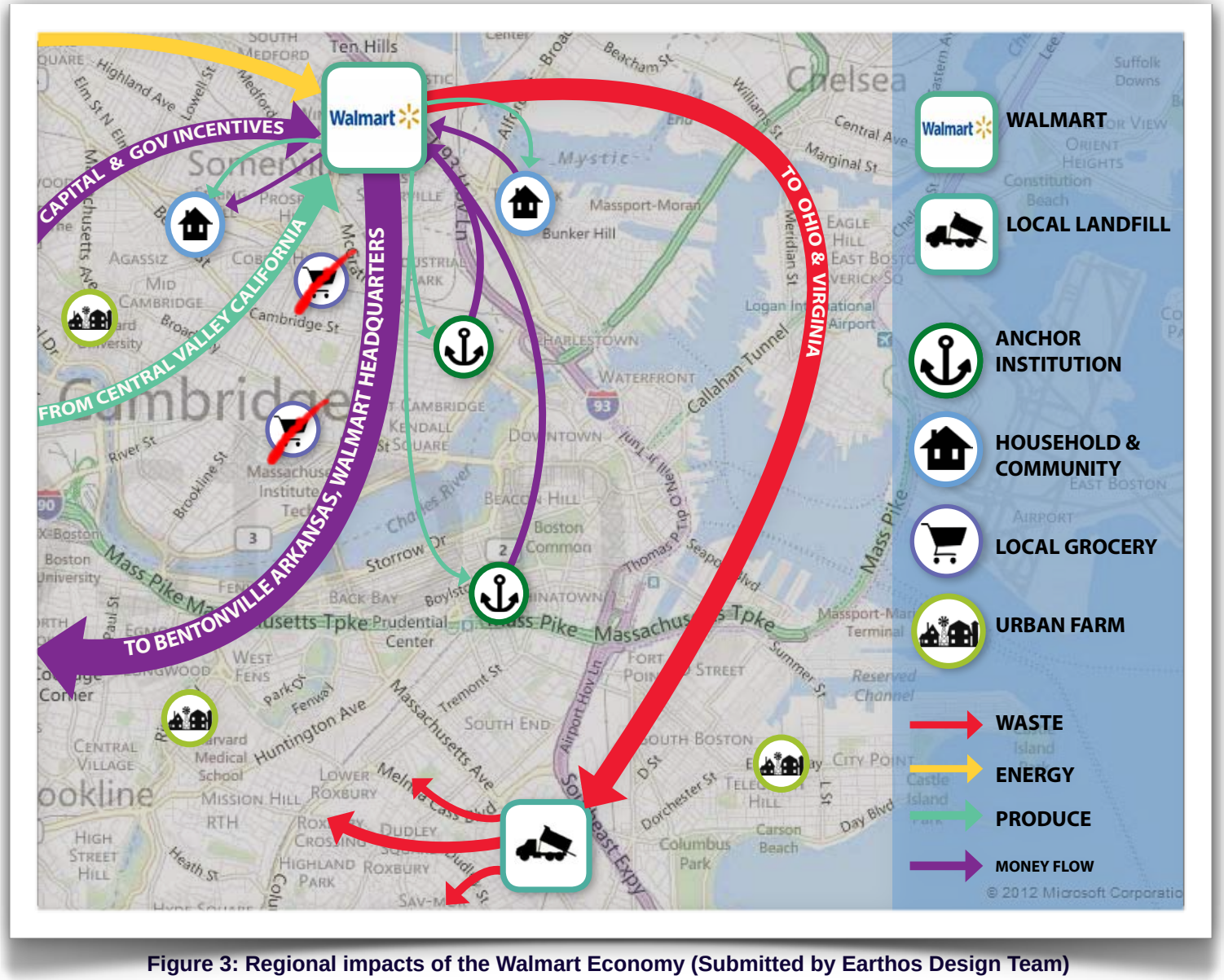

Figure 3: Regional impacts of the Walmart Economy (Submitted by Earthos Design Team)

Figure 3: Regional Impacts of the Walmart Economy

This graphic represents the regional impacts of Walmart's accumulation-based model. Notice how energy, money, and produce flow into Walmart from both regional and non-local local sources, while Walmart outputs are waste to local, regional, and non-local processing centers, and profits to the Walton family in Bentonville, Arkansas. Negative impacts stay local while positive impacts leave the region.

Section 2. Changing the Story: Building New Economic Models

Chapter 3:
The Stories of Ramon, Jennifer, and Jordan

USING OUR JOBS AND PURCHASING POWER TO BUILD MORE HEALTHY AND PROSPEROUS COMMUNITIES

Through telling the stories of three different individuals, this chapter introduces the ideas of building "another" economy. The following stories are fictitious; however, they are based on real experiences and processes felt by individuals participating in co-ops and community organizations around the US and abroad. The stories are set in Pittsburgh, PA due to its similarities to the Boston area, including being a post-industrial city, having disparities in its food and economic system, as well as recent campaigns and funds devoted to "fixing" fresh food access and overall health. At the end, you will find a synopsis of the theories and practices associated with building a different economy. Think of this section as being "up for discussion," as we encourage readers to discuss these ideas within the context of their own communities.

Ramon Vasquez, homeowner, 34 years old, Pittsburgh, PA

As Ramon signs the final papers, which make him a new member owner of 38 Negley St. #5 in Pittsburgh, PA he cannot help but feel overrun with joy. Ramon holds his breath as he puts the pen to the paper, signing and dating the document. He looks across the table at his father who is smiling patiently, and lets out a deep sigh. Ramon Vasquez is 34 years old, and is already purchasing a home. It is not just any home, but part of a land trust in which a group of like-minded individuals were able to work together and purchase a condominium building. The owners of this building care about preserving the diversity of the community, and believe that healthy and beautiful spaces should be a right for all, not a privilege for few.

Case Study: MCGYA

Manchester Craftsman's Guild Youth & Arts (MCGYA), is a registered non-profit whose mission is to educate and inspire urban youth through the arts. Although not involved in affordable housing preservation, the story of Ramon, is based on this organization—which has received many awards in accolades for their work in educational empowerment through the arts. The picture above displays a mug made by a student created as part of their ceramics apprentice training program. MCG, in partnership with the New England Center for Arts and Technology is planning on opening a similar organization in Boston. (http://mcgyouthandarts.org/contribute)

Ramon Vasquez is El Salvadorian and moved to Pittsburgh when he was three years old, along with his mother, father and two brothers. The Vasquez's faced many challenges transitioning to life in the US. Although his father found a job on a large farm relatively quickly, the wages were low, and living expenses in the US were much higher than in their hometown. As Ramon became a young adult, he understood first hand what it meant to be a 1st generation immigrant in the U.S. He saw how difficult it was for his parents to get citizenship status, to find good jobs, and to provide enough food for him and his siblings.

FIGURE 4: Conceptualizing A Local Food Economy

This diagram is a conceptual interpretation of how a local food economy functions within a region. As you can see, produce and money flows are very much interconnected, circulating several times throughout different enterprises, growing wealth in the region.

An Organics Repurposing Center, located in the middle, shows how recycling commercial, household, and municipal organic materials can help locally re-circulate money and produce by creating a valuable product, a source of energy, and the potential to anchor other local enterprises both within and separate from the food system.

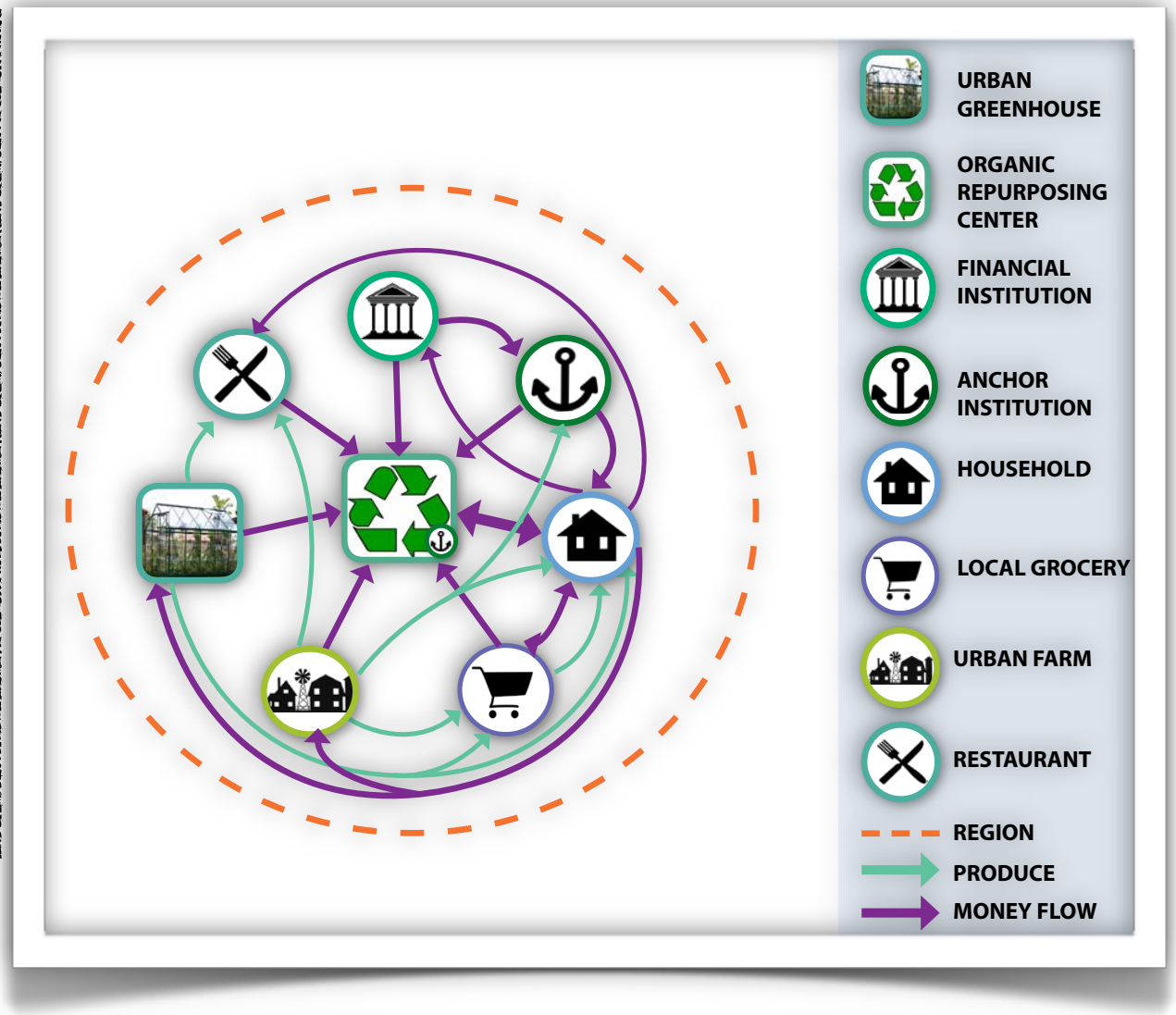

Figure 4: Conceptualizing A Local Food Economy (Submitted by the Earthos Design Team)

Establishing Community

At the age of 14, Ramon got involved with a Pittsburgh based community action organization, Youth 4 Art, which utilized art and leadership classes as a way to promote youth empowerment in low-income communities. Youth 4 Art also organized around affordable housing preservation in the greater Pittsburgh area. Ramon first became interested in Youth 4 Art when he was asked to help design and paint a mural in his neighborhood of East Liberty. Through that experience, Ramon saw how powerful and inspired people could feel when they came together to make their community more beautiful.

"Unity Through Diversity (Outdoor Mural, N.D.)
http://dsni.aericon.com/images/mural.jpg

Advocating for Affordable and Beautiful Neighborhoods

Just a few years down the road, at the age of 17, Ramon became one of the lead organizers at Youth 4 Art. At this same time, Youth 4 Art received the City of Pittsburgh's annual Community Revitalization Award, for their work in securing over 100 affordable housing units in East Liberty, and creating over 30 murals around the City. The organization is able to provide about 20 youth with decent paying jobs throughout each year, as well as offering more youth volunteer and internship opportunities throughout the summer months.

People around the city were starting to notice Youth 4 Art as an organization helping find real solutions to the high cost of living in the city.

Boston area groups that do work similar to MCG, include Artists for Humanity and Zumix. DSNI's Nubian Roots Youth Program did a mural "Unity through Diversity" which current Executive Director John Barros designed in 1993 when he was in the youth program.
http://dsni.aericon.com/images/mural.jpg

Somerville Community Corporation (SCC) has developed over 20 affordable housing projects, resulting in over 200 ownership and rental units.
http://www.somervillecdc.org/AboutUs/overview.html

DSNI's community land trust, (Dudley Neighbors, Inc) is also a great example, developing close to 200 units.
http://www.dsni.org/dudley-neighbors-inc

As an organizer working with Youth 4 Art and community members, Ramon realized that preserving affordable housing units was a great start; but he wondered if it was enough. Although they were securing more homes with affordable prices, monthly rents were still going to one or two landlords who did not even live in the neighborhood. How could Youth 4 Art try and help close the money loop from resident to landowner?

Now, more than ever, jobs are the hot topic. In the greater Boston area, rallies around job quality, security, and creation are frequent. Several sources point to increased crime rates and youth violence when youth jobs are cut, or simply unavailable.
http://youthjobscoalition.org/node/70

A few more years down the road and Ramon is now 34, and part owner of one of the affordable housing units acquired by Youth 4 Art. He is now able to pay into a system that actually pays him back. So, how did this whole process work? During the recent economic downturn, many homes around the city were foreclosed and owners were nowhere to be found. In many cases, banks would eventually take over the homes, and many would fall into disrepair, while residents were evicted. Community members went to Youth 4 Art to voice their concerns, "why can't the people who have lived in these buildings for many years, own their spaces? Why do the banks have to come in and take them away?"

Member Ownership

As a response to these concerns, Youth 4 Art took the capital they had accumulated over the years, and purchased the apartment that Ramon lived in, along with several other buildings. Then, in order to put residents in the position of owners, Youth 4 Art worked with the residents to find alternatives to the high interest home loans that large banks provided. They offered long term, and very low interest rate loans, and slowly, residents were able to buy their units from Youth 4 Art--which was not only keeping people in their homes, but also helping residents to become owners and start paying into their own assets.

Many organizations around the Boston area campaign around affordable housing preservation, and protest against home foreclosures. The Right to the City Alliance, a leader in the movement to end corporate greed, recently lead a march of over 3,000 people in Boston to Bank Of America's predatory lending practices.
Video at: http://www.youtube.com/watch?v=96-gmPcfdNs

Because Youth 4 Art housing units require that worker-owners participate in democratic and cooperative management, each has a say, (or one equal vote) in how the buildings are operated. Board members are elected for the housing unit, with the ultimate aims of empowering residents to purchase their units from Youth 4 Art. The boards at the different housing units talk with financial advisors from Youth 4 Art to decide on the amount of down payments, affordable long-term interest rates, and investments for the year that make sense for the residents' income levels.

What Makes a Co-op? ICA Statement of Co-operative Identity (1996)

1. Voluntary and Open Membership
2. Democratic Member Control
3. Member Contribution to Capital
4. Autonomy and Independence
5. Education of Members and Public in Cooperative Principles
6. Cooperation Between Co-operatives
7. Concern for Community

http://www.ica.coop/coop/principles.html

Case Study: ADP

Alliance to Develop Power (ADP) is a grassroots organizing and community asset building group in the Pioneer Valley of Massachusetts. ADP has "won $60.5 million in federal, state, and local funds to purchase, rehab and transform 1,400 units of at risk housing to tenant owned, permanently affordable cooperatives and the collective ownership of $65 million of real estate, the largest holding of tenant owned housing in the United States and the economic anchor of the ADP *Community Economy*."
http://a-dp.org/about-us/accomplishments [emphasis added]

It was also decided by owners that excess money beyond maintenance fees would be reinvested back into Youth 4 Art. In this way, owners would be investing in the creation of more youth jobs and ownership opportunities around the city. This builds an economic safety net, as more people would be able to participate in their housing ownership model.

What's next?

Ramon was constantly inspired with the individuals he worked with. He was happy to finally be paying into a system he believed in, and establishing his own asset base. At this time, Ramon became confident in the member owner system that Youth 4 Art had established, and his attention began to shift in other directions related to community health.

Ramon began to notice that year after year in his work, he saw more people becoming overweight. Putting two and two together, he repeated the words of his mother, *"Where is all the food?"* Ramon's mother had always complained about the lack of healthy food in Pittsburgh. She wasn't interested in fast food, but wanted the foods that she used to grow herself in El Salvador. Where were the vine-ripened tomatillos, thick green squash, sweet mangoes and plantains? Everywhere he looked, Ramon felt people were either overweight or suffering from diabetes. And everyone had the same complaints…food just didn't taste the same, and it was getting *so* expensive.

Jennifer Crosby, 48, Care Community Worker-Owner, Pittsburgh, PA

Jennifer Crosby, a mother of four, lives about 10 miles from Ramon in East Liberty. As a health care professional she also has her complaints about food. Today, Jennifer is a worker-owner of Care Community, a for-profit company that specializes in assisted living and home care for the elderly and ill. However, this was not always the case for Jennifer. Before Care Community, Jennifer worked for another company that paid her with low wages, and no overtime or health benefits-- which made providing for her family very difficult. Almost all health care jobs available seemed to offer the same low wages. Something had to be done.

Jennifer wanted fair pay for her hard work, and she wanted the same for her co-workers and community. She wanted to promote health not only for her clients, but also for her fellow caregivers who were giving so much for so little return. Things began to change in 2000 when the

Community Benefit Agreements (CBA's)

In a lot of cases, large and profitable businesses that are tax exempt will make agreements with local governments or developers in order to contribute funds they would otherwise be paying in taxes. A PILOT (Payment in Lieu of Taxes] is one example of a CBA and is defined as "Federal payments to local governments that help offset losses in property taxes due to nontaxable Federal lands within their boundaries."
http://www.doi.gov/pilt/index.html

Boston Medical Center: The 2011 UEP Field Projects Team found that "BMC's total assessed value of tax-exempt land and buildings were $262,022,400 in 2007. If BMC paid local taxes at the commercial rate ($28.67 per $1000 in value) they would have paid $7,541,182 for FY07. Instead they made a $123,114 PILOT payment or 2 percent of what they would have paid if they were a for profit hospital."
(PVW Group 1, "Community Control Over Development.")

local government finally responded to pressure from labor unions and community members, by agreeing to provide more funding for fair wage jobs for residents. Jennifer's company, Care Community, was one business that benefitted from the agreement. So how did Jennifer get this to happen?

The Political Climate

Pitt Hospital, a large medical and surgical hospital in Pittsburgh was the target of some of the frustration felt by labor unions and health care providers. While the hospital did provide many jobs, a low number of entry-level positions were available - because the hospital partnered with the University Of Pittsburgh School Of Medicine, the majority of jobs were given to medical students. Additionally, the hospital is a registered non-profit, which means they do not pay taxes to the City. However, the hospital had an existing agreement with the City of Pittsburgh, and it was required to give a certain percentage of annual of their profit back to the communities that it served. The labor unions decided that if they could come up with a specific plan for securing good jobs, they could request that a percentage of this money provided by the hospital could go directly into their initiative. That is exactly what they did. After many months of organizing, research, and discussion, they came up with a plan and a campaign: Care Community.

Establishing Values

As previously mentioned, Jennifer and her friends were sick and tired of working countless hours, pouring their time and energy into their work with little financial return. They were upset that they were providing superior care for their clients, yet executives of their companies were making all the money. Together, this group of women, along with the labor union, decided that they could organize their own care provider company and set their own standards. They talked about what they wanted to see in their ideal company, and how it would be different from other care companies. The group came up with a few guiding values that they all agreed on.

First, they decided that their company would always provide people with fair waged jobs, including health benefits and overtime pay. Second, they decided that community residents would be considered for employment before non-residents, and that there should be a diversity within employment ratios that reflects the community they serve. Third, the group decided that workers should *own the business together*, instead of having a single owner or executive controlling the business. After the group decided on their values, they started thinking about financing. There was one question left: How would they start this business when no one had much money to contribute to start up costs?

Case Study: CHCA

Cooperative Home Care Associates (CHCA) is a nationally recognized, South Bronx-based owner home care agency. "Founded in 1985 to provide quality home care to clients by providing quality jobs for paraprofessionals, CHCA now anchors a national cooperative network generating over $60 million annually in revenue and creating quality jobs for over 1600 individuals. CHCA offers the highest possible salaries and benefits while building a profitable worker-owned company."
http://www.chcany.org/index.html

Developing the Campaign

When the group felt they were unified in their values and goals, they began their campaign for securing good jobs by making a set of requests to the local government, and holding conversations with hospital officials. Initially, the campaign for Care Community requested that Pitt Hospital and the City of Pittsburgh provide funding for start up costs. The campaign also required that the hospital advertise Care Community services to their patients. In this way, Care Community could get off the ground and would not have to spend much money on advertising for new clients.

The campaign also requested that each year there after, Pitt Hospital would be required to pay a certain amount of the money they would otherwise be paying into taxes, to invest into Care Community. In this way, Care Community could ensure consistent, good jobs for people with and without formal education. The campaign emphasized that local jobs and ownership opportunities meant money would be circulating within the community. In addition, the group emphasized that through their standard for diverse employees, they could offer multiple care options such as acupuncture, meditation, yoga, herbal healing and traditional medicine options for patients; thus, more comprehensive health for the community could be achieved.

In total, the campaign and agreement stated that annual support from the hospital would ensure that Care Community could offer livable wages for care providers, and offer worker-ownership options for employees. In addition it was stated that as profits increased, Community Care should choose to invest in other like-minded organizations as agreed upon by their members.

Case Study: The Cleveland Evergreen Model

"In the Cleveland model, the cooperatives are designed to be completely owned and managed democratically by workers. After a six-month probationary period, employees are invited to become members of the coop, are given a raise of about $2.00/hour, and then become investors in their company through a payroll deduction of $0.50/hour over the course of three years, they are able to complete the total ownership stake of $3,000. At this rate, **employee-owners could earn a potential equity stake of $65,000 after about eight years**. As the businesses become profitable, company earnings are distributed into "capital accounts" owned by each worker."
(Wang, n/d).

A Success Story for Good Jobs

Today, Jennifer sits on the board of Care Community and holds $78,000 dollars in assets. She has been a worker-owner of Care Community for 8 years, and although the process of developing and maintaining shared values of the company is not easy, there has been tremendous support from the community. As agreed upon by the labor union, Care Community, Pitt Hospital, and the City of Pittsburgh, $15,000 is directly invested into Care Community every year. And through the patient referral agreement much more money is contributed to Care Community by the hospital. Currently, Care Community employs 50 workers, who also happen to be owners. There are an additional 20 employees at a time who go through a probation period in which they decide if they agree with the way the company is structured. Each worker-owner must: a) follow a set of principles related to equity and shared visions to be considered for a position, and b) vote in company procedures such as investments, wages, benefits, and practices.

Jordan Lally, 16, Good Food Co-op, Pittsburgh, PA

At a public meeting on local business and economic growth, Ramon Vasquez and Jennifer Crosby met. These individuals had each heard of the other, but never had the opportunity to meet in person before then. Other people in the room shared similar values and ideals with these two, and the room was abuzz with energy. During the meeting, Jordan Lally, a high school student interested in why there were so many people with diabetes in her community, passionately spoke out:

> *We are all talking about our local businesses and growing into better communities. But the way I see it, we cannot do any of this while being fed crap food, and checking our blood sugar levels. If we do not have any places to purchase healthy food, if we have to drive or take the bus just to get fruits and vegetables how is that helping our communities? I mean, we don't even have fresh fruits in our school cafeterias—we get little tangerine pieces in syrup instead of the real thing. The only affordable foods in our neighborhoods are mac and cheese and wonder bread, and even that is getting expensive.*

The room was stunned. Jordan had spoke out with such clarity about an issue that everyone felt, but no one knew how to address. Ideas were tossed around back and forth, and a date was set up in order to talk more about how to get healthy and affordable foods into their communities. Folks such as Ramon and Jennifer were immediately interested. And as they say, the rest is history.

A Long Term Business Plan

After 9 months of meetings, researching, and talking with stakeholders such as schools, local businesses, meeting with consultants, community members and local officials, a business plan was launched. The People's Food Coop was planned to open in an abandoned site in East Liberty. Since organizations like Community Care and Youth 4 Art were in a position to invest in other like-minded businesses, they were able to assist in setting up a fund for the People's Food Coop. The money put up by Community Care and Youth 4 Art was matched by other organizations and a grant from the Federal Government promoting healthy food in low-income communities. While start up money was coming from several different places, it was decided that Community Care and Youth 4 Art would be the initial owners of the business.

"State Representative Dwight Evans championed this recommendation, and with the support of other key legislators, the Pennsylvania General Assembly appropriated $30 million over three years to create the Fresh Food Financing Initiative (FFFI). Developed as a public-private partnership, FFFI provides one-time loans and grants to encourage fresh food retailers to locate or remain in underserved low-income communities.

(PolicyLink, 2010).

Developing Principles and Values

It was extremely important that the stakeholders decided on a set of principles in which the coop would operate. Community Care, and Youth 4 Art, as well as community members and other stakeholders decided that the coop should provide residents with an option for healthy, affordable, and culturally diverse foods. The community organization provided input for how the finances could flow, and students and community members chose what sorts of products they wanted sold.

An Emphasis on Environment

It was decided that the foods would come from local and organic farms whenever possible, and they would address the issue of expensive prices by purchasing in bulk. The coop was sensitive to the mom and pop stores in the area that already did provide some fresh and diverse foods, and so stakeholders decided that the coop should also be a distributer of foods to local mom and pop stores in the area. By purchasing from local farms, they were able to support more local jobs, promote fresher and healthier foods, and reduce their carbon footprint by decreasing how many miles their food traveled. Since it is impossible to get all foods from local farms, produce not grown in the area would come from faire trade businesses and connections, to ensure fare wages and labor rights were discussed.

Stock Photo. http://fairtradeusa.org/products-partners/herbs-spices

"Thousands of small scale farmers grow spice and herb crops, yet industry consolidation has allowed two multi-national corporations to dominate the market. With Fair Trade standards for herb and spice production, small farmers receive a price that allows them to compete in the market, as well as a premium to invest in social and economic projects for their communities."
http://fairtradeusa.org/products-partners/herbs-spices

Working Out The Money

In the business model, it was decided that Care Community and Youth 4 Art would own the People's Food Coop at first, but overtime, as the business developed and gained profits, it could transfer into a consumer and worker owned business. In this regard, people who worked and shopped at the market could buy shares in the coop from Community Care and Youth 4 Art.

Overtime, as more consumers and workers purchased more shares, ownership of the coop would be transferred from the community groups to consumers and workers. The general idea developed by the stakeholders, was that by adhering to democratically decided values and business principles (one person one vote), consumer and worker-owners could buy a share in the coop and receive corresponding money and assets depending on their roles as owners. The new owners would also have an equal say in how the business should operate: for example, what products should be sold at what prices.

Consumer vs. Worker-Owners

The group decided that as a consumer, people who shopped at the coop could pay a lifetime membership fee of $300, and could pay this in installments, or over the course of one year. Then, at the end of the year any profits made by the coop would be equally divided among owners, depending on how much they spent at the coop that year. (See "Consumer Owner Benefits" insert). The next year, since Mary already paid her membership fee, she should receive a greater return for her purchases. As for worker-owners, on top of their $300 required membership fee, they could choose to have a larger stake in the coop if they wished.

What is surplus?

Lets assume that stakeholders decided that surplus is defined as: Any money left over after money for fare wages, good benefits, reinvestment into the co-op, and financial support of other socially conscious businesses has been dispersed. In Dominant Model Economics, surplus is the ultimate goal, and is generally defined as any money left over after covering minimal costs for labor and equipment. This surplus is the main source of huge executive bonuses.

Worker-owners were given the option to invest 5% out of each of their paychecks back into the coop. Overtime, it was calculated that worker-owners would accumulate $70,000 in assets after 8 years of ownership. It was also decided, that any worker-owner, upon leaving their job at the coop, would need to take all their money in assets with them. In this way, no one person would have a greater say in the money flow of the coop than anyone else.

Putting the Pieces Together

On opening day of the People's Coop, Jordon checked out customers purchasing local eggs, kale, zucchinis, cheddar cheese, corn flour, fair traded herbs and plantains from El Salvador, and many other products. So many people were excited about the market, commenting on the affordable prices and wide selection of goods. Throughout the day, Ramon Vasquez and Jennifer Crosby greeted customers and passed out information. Ramon ran into a few neighbors who he lived at the land trust, and Jennifer ran into a few co-workers who were picking up supplies for their patients. Together, by voting with their money and choosing where they worked, these people were helping to build an economy that *worked for them*.

Consumer- and Worker-Owner Benefits:

Consumer and worker-owners have the power to decide financial decisions such as repayment. For example, if the People's Food Coop annual profits were $40,000 dollars and owners decided that they should have a 10% repayment on total profits, then Mary, a consumer owner who spent 2,000 dollars at the coop over one year, would receive $200 at the end of that year. (This is a portion of the $40,000 profits; based on 10% of the total money she spent).

Chapter 4:
The Solidarity Economy

As described in the stories of Ramon, Jennifer, and Jordon, we can begin to see why a co-op with a business model based on democracy, sustainability, and empowerment, can be profitable. We can also begin to see that by connecting co-ops and like-minded organizations, we can build a resilient economic support system that works for us. When our business practices are in line with our values, the long-term health of our people and our planet is emphasized, and so are our individual and collective assets. The following section provides a summary and description of some of the scholarly theory, and real life scenarios, relating to building new economies that work for us.

As seen in Chapters 1 and 2 of this document (The Story of Walmart), we can see that the core driving factors of the dominant economic model (efficiency to accumulate profits), simply do not take into account essential community needs such as poverty alleviation or environmental sustainability (van den Berk-Clark, 2011). But, how do we know this is true? And, more importantly, what can we do about it? The answer, quite simply, is we know it is true, because we can *feel* it. In nearly ever sector of our economy, the high prices of living (food, health care, education, and housing to name a few), force us to spend the majority of our time working. We are working to pay off bills to keep ourselves warm and feed, and have less and less time to spend with our families, to relax, and to do what makes us *happy*.

In this dominant economic model, those owners or executives who make the most money and who know how to make profits flow in their direction are *admired*! In this current system, we look to profits and the accumulation of money first, and worry about the welfare of our families, communities, and our homes second. So we revisit the question, what can *we* do about it? How do we begin to think about and build the economy that *we want*, that will work to *support us all*? It seems like such an impossible task when thinking about the big picture. But the truth is, *it is already happening, all around us, all the time*.

In the story of Ramon, above, when he first volunteered for Youth 4 Art to paint a mural in his community, he donated his time to beautify the neighborhood, and thus contributed his time to building the economy he wanted to see. The truth is, whenever someone trades with a friend, volunteers their time or expertise, or even lends a helping hand to a stranger, they are participating in an economy that works *for them*. There is no exchange of money in these transactions, and yet, people, the environment, and our communities are supported. For thousands of years, people operated in this way, which some refer to as the *non-market economy.* It is only in the last two hundred years that there has been such a dominant focus on profits, ownership and accumulation of wealth at the expense of others and the environment. It is important to understand that the dominant economic model we live in today has not been around forever, and more importantly, that it does not have to be our future (Miller, 2011).

Many people all over the world participate in non-market economies as a means of survival, as a means of enriching their lives. These transactions are what make us feel good inside, they are what build relationships with others that sustain our happiness and our health. So then, how can we capitalize on what we know is right? Is there a way we could bring these values to the forefront of our economy? Many people around the world have been thinking about this very question, independently, and together. From Argentina to Japan, people are thinking of ways we can make the shift from an economy that sup-

presses, to an economy that empowers and supports. This thinking has turned into a global movement, and is known as The Solidarity Economy (Miller, 2011).

Defining the Solidarity Economy

In short, The Solidarity Economy (SE) movement emphasizes environmental sustainability, cooperation, equity, and community well-being over profit, and spans over nearly every aspect of the economic sector: production, distribution, and consumption. The primary goal of SE is to democratize the economy, creating more room for personal choice and making our own decisions related to long-term financial and environmental sustainability. For example, in the story of Jennifer and Care Community, each worker-owner got one equal vote in determining the business practices they would abide by. This is an example of bringing democracy to a profitable business. In fact, businesses that take into account SE ethics do not look much different from traditional capitalistic businesses on the outside. However, SE businesses are likely to be worker-owned, and have a greater focus on reinvestment within the company and certainly within the community by staying committed to the aforementioned principles of equity, environment, and cooperation.

It is important to remember that SE does not reject the dominant economic model, or the way our current system is functioning outright. Rather, SE uses the tools and conditions of our current system to create interlinked enterprises and organizations that are profitable in current conditions, WHILE transforming market and social values to reflect a more holistic approach to exchange (Miller, 2006).

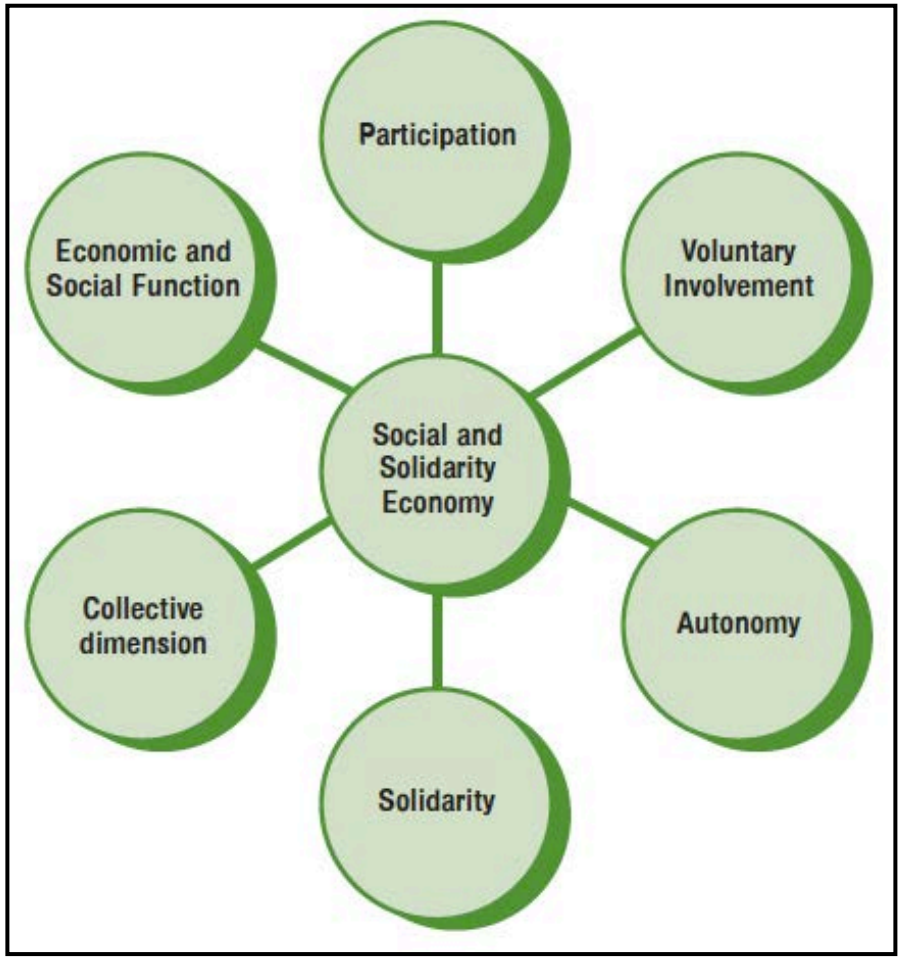

Figure 5: Combined Social and Economic Objectives
Image source: Fontenaeu, 2010. 6

Figure 5: Combined Social and Economic Objectives

This figure represents some of the various values and working goals incorporated into building the Solidarity Economy. Since defining the SE is so difficult, images like this help visually portray what words struggle to describe.

For example, growth is not inherently bad in an SE model, but narrowly defining growth as the accumulation of money does not account for other societal (non-market) values, such as culture, place, environment, and community. Instead of developing enterprises for the sole purpose of generating profits, SE views profits as the fuel to support other like-minded businesses that generate monetary, social, and ecological wealth and assets ("Worker Coop Movement in Argentina").

Before we get too far into the details of the SE, let's take a look at what it's like to be a SE business or organization through the lens of the Six Economic Factors. Recall that the Six Economic Factors were also used to describe the dominant economic model, and The Story of Walmart in Chapters 1 and 2. How do they compare?

1. ***Collective* Ownership**: In the SE, ownership can take on many different forms. As seen in the cases of Jennifer and Ramon above, co-ops can be many different businesses, and are one of the best (and well-known) examples of what it means to be a for-profit SE business. Co-ops utilize collective ownership, and aim to disperse wealth more evenly among workers and/or consumers. Co-ops also aim to foster more empowerment through internally and locally directed financial and intrinsic investments.

Common Operating Principles:

The ILO defines six Common Operating Principles for the *Social and Solidarity Economy*: **Participation, Voluntary Involvement, Autonomy, Solidarity, Collective Dimension, Social and Economic Function**. While these are foundational business/labor principles, they do not account for all human values associated with the SE. See *Appendix C* for a more detailed definition of these operating principles. (Fonteneau, 2010)

2. **Division of Labor**: The division of labor can vary in different business models. However, considering the SE model, businesses tend to be built around fair and equitable labor practices. Working conditions and labor rights are at the forefront of guiding values. It is common practice in cooperatively owned businesses to "take turns" with less desirable tasks such as mopping the floors, so that any one burden does not fall on a single individual.

3. **Remuneration**: In a co-op model, because ownership can vary from worker-owner to consumer-owner, so can the amounts of pay. Typically, in a worker-owner model, everyone is paid based on how many hours they work, and the highest paid individual can typically make no more than three to five times the lowest paid individual. However, in many nations co-op wage ratios can exceed 6:1. In most co-ops, profits are reinvested back into the business, in the laborers, and if it exists, in the network of co-ops. Overall, workers and consumers have a share in the total assets as well as wages.

4. ***Democratic* Decision-Making Structure**: Decision making power in the SE, can again take on many forms. However, because democracy and solidarity are such guiding principles, stakeholders often represent equal votes in the decision-making structures. This is especially true in co-operatively owned business, where decision making is always based on a democratically run system.

5. **Guiding Values**: Solidarity economy businesses, while they can take on many forms, try to stay consistent with similar guiding values. As previously mentioned, these are identified as, but not limited to democracy, cooperation, equity, sustainability, and community well being.

Our Economy Brainstorm (Occupy, Connect, Create!)

6.**Sustainability:** Environmental Sustainability is also a predominant guiding value, and SE businesses are expected to act in the best interest of future generations.

Our Economy Brainstorm

"Our Economy Brainstorm," is a depiction of how we might think about the relationship between the dominant and the solidarity economies.

Iceberg image adapted from an original by Ken Byrne, published in J.K. Gibson-Graham, A Postcapitalist Politics. Minne- apolis: University of Minnesota Press, 2006.
(Occupy, Connect, Create!)

What do organizations in the Solidarity Economy look like?

As seen in the stories of Ramon, Jennifer, and Jordan, different businesses or organizations can take on many different forms, and have unique operating practices which are specific to their objectives. We have looked at a few different examples of co-op businesses, but are co-op the only businesses which are a part of the SE? If not, what is it that ties SE businesses and organizations together? What is it that makes them similar? The answer is that they all operate under a *similar set of guiding values*.

The International Training Center of the International Labour Organization (ILO) refers to organizations and enterprises in the Social and Solidarity Economy as "those that are based

on principles of solidarity and participation and that produce goods and services while pursuing both economic and social aims" (ILO 2010; vi). In other words, businesses and organizations in the SE think about community health over profits, and are concerned about fairness and equity in all aspects of work, from people to the planet. Listed below, you will find examples of SE business. Are there any local examples that come to mind when reading through these categories?

Mutual Benefit Societies – Organizations that provide social services for their individual members and their dependents. They can be formal or informal, and seek to meet the needs of communities to organize collective social relief themselves by sharing a wide variety of risks and pooling resources. These are essentially not-for-profit insurance companies.

Associations and Community Based Organizations – Associations, voluntary organizations, community-based organizations, non-profits, and collective interest groups make up a major part of the solidarity economy. While they are all different, they operate according to similar principles, like negotiated rules and reciprocity guaranteed by social control, and pursue similar interests,

Now that we have a clearer idea of what makes an SE business, what would it look like to compare a Walmart grocery store with a food co-operative in terms of the Six Economic Factors? The chart below, while simplified, shows stark differences in the business models of the two for-profit food retailers.

Table 1. Economic Model Comparison	Walmart	Co-op
Ownership	**Private**: owned by Walton family, absentee investors, and stock-owners	**Collective**; owned by combination of community, workers, consumers
Division of Labor	**Hierarchical**; "corporate ladder" to better pay and higher position, management and ownership distinct from labor	**Equitable**; structures differ but are collectively decided in the co-op's bylaws and guiding documents
Remuneration	**Ambiguous**; based in productivity of labor (wages) and assets (investments, property,	**Equitable**; profits/debts shared among members-owners; wage and asset structure decided collectively
Decision-Making	**Exclusive**; decisions from the top-down, those impacted by decision have little to no say in making them	**Democratic;** decisions made collectively by members, one person, one vote; those impacted make decisions
Guiding Values	**Accumulation**; Walmart economy based in accumulating surplus through efficiency - increasing benefits, decreasing costs; private benefit over collective	**Solidarity**; See Statement of Co-op Identity (Appendix C); equity, cooperation, community, sustainability; collective benefit over private
Sustainability	**Questionable**; generally not a major focus; accumulation and efficiency often act against ecological sustainability	**Varied**; Solidarity Economy emphasizes ecological sustainability. Some co-ops emphasize, others ignore.

This table was created by the 2012 Practical Visionaries Field Projects team, loosely based on Emily Earle and Ian Adelman's 2012 joint thesis project, and: Bakken, Henry Harrison and Schaars, Marvin Arnold (1937). *The Economics of Cooperative Marketing*. New York, NY: McGraw Hill Book Company.

like economic utility or creating and maintaining social bonds.

Social Enterprises – A relatively new concept in business, social enterprises refers to a variety of situations. Generally, they seek business solutions to social problems. The International Labour Office of South Africa defines social enterprises as: having a primary social purpose clearly stated as its core objective; using financially sustainable business models with a realistic prospect of generating profits (instead of receiving donations), and being accountable to stakeholders for financial and social impacts. An example of this business model is the triple bottom line – instead of focusing solely on a profit goal, the enterprise focuses equally on profits, sustainability, and social justice.

Foundations – while not all foundations fall into an SE model, they deserve inclusion in this discussion for their role in supporting the development of other business ventures by providing grants and training, contributing to their annual operation expenses, and spearheading large-scale projects that smaller organizations do not have the finances to engage in.

Nonprofits – These are not inherently part of SE models, but their legal status as an organization that does not work solely for profit demonstrates their transformative power. They may not change patterns of ownership and still focus heavily on bringing in funding, but they intentionally do not accumulate surplus value. Many are issue- or community-specific, and have to rely on member donations or grants, but they have great potential to contribute to the solidarity economy.

Cooperatives – autonomous organization of persons united voluntarily to meet their common economic, social, cultural needs and aspirations through a **jointly owned and democratically controlled** enterprise. Cooperatives can be formed by groups of producers or consumers, and function at all economic scales, in all areas of economic activity, all around the world. See *Appendix C* for more information.

While not identified by the ILO, locally owned small businesses and micro-enterprises are also key components to the SE in terms of community economic development. Since ownership in these models is generally local, they contribute to keeping wealth in their communities. These businesses tend to hire staff locally, often from within the owner's immediate social circle, and also tend to rely on other local businesses for outside services like tax preparation and legal advice.

There is also a role for local, state, and federal governments in developing the SE. Support for co-op development through tax incentives, changes in zoning to benefit urban agriculture, and providing free access to social services are examples of how the government can play a role in the SE. Some examples exist in the US and abroad, such as the city of Cleveland's involvement in developing the Evergreen Cooperative Network (Alperovitz, 2009) and the Italian government's tax incentives for cooperative development funds (Iuviene, 2010). In addition, participatory budgeting is major way in which local governments can play a role in the SE.

Participatory Budgeting is a democratic process in which residents have a say in where and how a portion of public funds will be spent (Participatory Budgeting Project). More often than not, though, governments can also significantly hamper the SE by continuing to financially support enterprises that remove wealth from a locality and alienate its workers. This means tax breaks for "job creators" who export factories to developing countries or contribute to ecological devastation (Walmart). In this way, it is up to constituents to be informed and precise about which kind of jobs they are supporting.

Accounting for non-market values in the SE

In addition to the specific businesses and organizations identified above, the SE also seeks to include other forms of human exchange and labor that do not easily fit into an economic model. For example, parenting is not an endeavor that can be valued monetarily or seen as an exchange, though it is certainly labor intensive and almost always decreases a parent's ability to participate in our current economic system. When a person invests the amount of time and energy necessary to raise a child, he or she has that much less time to be earning money or participating in exchange. It is important, then, for us to find and create structures of support and sharing that can help mitigate the negative economic impacts of such positive human endeavors. Additional values include environmental sustainability, community-driven development, parenting, gifting, social movements, community groups, and local trade and bartering, which are all examples of non-market values in the SE (Miller, 2006).

Uniting existing businesses and non-market economies together to create an economic support system:

Building the solidarity economy is not simply a business development strategy. Like the Dominant Economy, the SE operates according to a few specific guiding values. In order to help strengthen and grow these SE values, we must connect existing businesses and enterprises to larger social movements. We cannot expect one business model or one individual to be responsible for creating the economy that we want to see, but must work together to foster the economic values we want in our communities. For example, would we expect one solar panel co-op to be able to change the economy on its own?

When we think of linking that business with the environmental movement, sustainable development practices become more important. When linked with the labor movement, living wages and fair hiring practices become central focuses. Moreover, when members of social movements need construction services, they will see that this solar panel company has supported the movement's goals and values, and will be more likely to hire the co-operative over another. Instead of thinking only in terms of linear profits, we can think in terms of building networks of support through SE values. Accepting the primary goals of creating "spaces" that foster economic diversity, democracy, solidarity, sustainability, and self-determination, we can begin to look at different approaches to ownership, management, decision-making, guiding values, and their effects on surplus distribution (Miller, 2006). We can begin to build an economy that works for us.

As seen in the stories of Ramon, Jennifer, and Jordan, the most successful cooperative enterprises were developed from the ground up, are deeply rooted in their communities, and have connections with other like-minded businesses. We believe that this community-driven approach is essential in developing any real economic transformation. In the chapters to come, the concerns of food access and healthy jobs are addressed in the context of the greater Boston area, in the communities of both Somerville and Roxbury. It was our goal to tease out some practical applications for addressing food and job security in each of these communities, and see if they could be linked together through common SE guiding values. While this document represents one interpretation of "what could be" in these communities, we look forward to working towards "what will be" as forged by our communities.

Chapter 5:
Thinking with a Food System Lens

The biggest topics in social policy today involve two integral things – food and jobs. 48 million American's – 14.5% of the population - live in households struggling to put enough food on the table (USDA, 2010), one in seven people are enrolled in the Supplemental Nutrition Assistance Program (USDA, 2011), more than one in seven individuals live below the poverty line (US Census Bureau, 2011) and more than 8.3% of people are unemployed (USDL, 2012).

These two things are primary concerns in communities across the country. Boston is no exception – 6.6% of residents across the city are unemployed. (BLS, 2012) According to Mayor Menino, in 2011 the unemployment rate in Roxbury was almost double that. (Finucane) Though food and jobs are both on the political forefront, rarely is it linked that a local food system means local jobs.

WHAT IS A FOOD SYSTEM?

The "food system" incorporates every aspect of the lifecycle of food, from production to consumption to waste. It is a key tenant of the economy both in local communities and as a global structure. Due to the complexities of the food system, and because each piece - each decision - is inextricably linked to all the others, it is crucial to consider the production, consumption and disposal of foodstuffs as an interconnected system. Each part is affected by the other parts, in addition to having a greater impact on surrounding ecosystems - both natural and cultural.

The food system as we know it is not only much more complex, but also much less local than many people assume. While some portions of the food economy *are* local - "mom and pop" restaurants, locally owned markets, community gardens and urban farms – industrialization has moved most food sources further away. Things now function much less like an interlinked system and much more like a linear path with many external influences holding it together. The places and processes our food goes through before coming to us can be hard to imagine...

WHY IS IT IMPORTANT TO CREATE A FOOD *SYSTEM* RATHER THAN THE LINEAR MODEL REPRESENTED BY CORPORATE GROCERY STORES?

Clarified by the Walmart example, the industrial model of food production and distribution has little accountability with regards to the greater societal good. Chemicals are used to produce food in large facilities without regard for the surrounding ecosystem, how the inputs were created, who had to handle them or suffered harm from them, or from where they came. The food is then shipped off on trucks, trains or boats to distribution centers thousands of miles away, all over the world. The processes the "food" undergoes, (like being sanitized with a mixture of bleach and water) and the conditions suffered by the people picking or packing the food (at times condemned as modern-day slavery), are severe (McGlynn, N/D; Sellers and Asbed, 2011).

Food is then trucked from massive distribution centers to large grocery stores where customers can buy goods about which they are provided no real information. The "food" that isn't bought or eaten before it expires, along with the packaging it came in, is dumped in landfills. These landfills are also overflowing, closing, and poisoning the environment. This is far from the cyclical system nature has always utilized - one that can sustain itself. It is much more like a linear road

towards environmental destruction and failed human health. Looking into the industrial food system exemplified by Walmart we will see that those who control the food, also control the money and the health of the environment.

What about an alternative to the corporate model? What about the idea of building a local food system, by the community and for the community? Creating a food system is a scenario in which components are interlinked – each part of the process relies on the others to sustain and prosper. In a system, each part is fed by the others and the system holds itself up. In a food system there is less waste, less pollution, and less injustice. A system creates a stronger, more resilient community. It creates local jobs and local money.

The DSNI/Food Project Greenhouse in Roxbury. Photo by Lauren Cole, taken April 2012.

WHAT COMPONENTS EXIST IN A LOCAL FOOD SYSTEM, BOTH COMMERCIAL AND NON-COMMERCIAL?

A local food system comprises a vast web of networked businesses and activities. Non-commercial aspects in the food system include home gardens, community gardens, informal food swaps, food pantries, food banks, family dinners and community gatherings. Commercially, the food system includes seed companies, nurseries, farms, farm stands, farmers' markets, trucking companies, distribution facilities, grocery stores, corner stores, restaurants, institutional cafeterias, garbage companies, hauling companies and waste management facilities.

Many of these things exist in some form or another in most communities, but usually there is room for growth or gaps in the system waiting to be filled. Honing in on these gaps provides an ideal way to foster job creation and ensure a food secure community. In Chapters 7 and 8, we will look at two scenarios thought out for the Boston area, envisioning how communities might harness the power to take control over their food system while fostering local economic development.

HOW CAN COMMERCIAL ASPECTS OF THE FOOD SYSTEM BE IMPLEMENTED IN OUR LOCAL COMMUNITY?

Re-localizing the food system means both re-localizing jobs and keeping more dollars circulating within the community. Developing local, worker-owned cooperatives means fairer employment and greater job security. With regards to the food system, this can take any or all of the forms mentioned above. Here we will take a closer look at two options, based on current infrastructure, community interest and political will. These options will be considered in Roxbury, Massachusetts, a neighborhood of Boston as well as in two neighborhoods of Somerville, Massachusetts: Winter Hill and East Somerville.

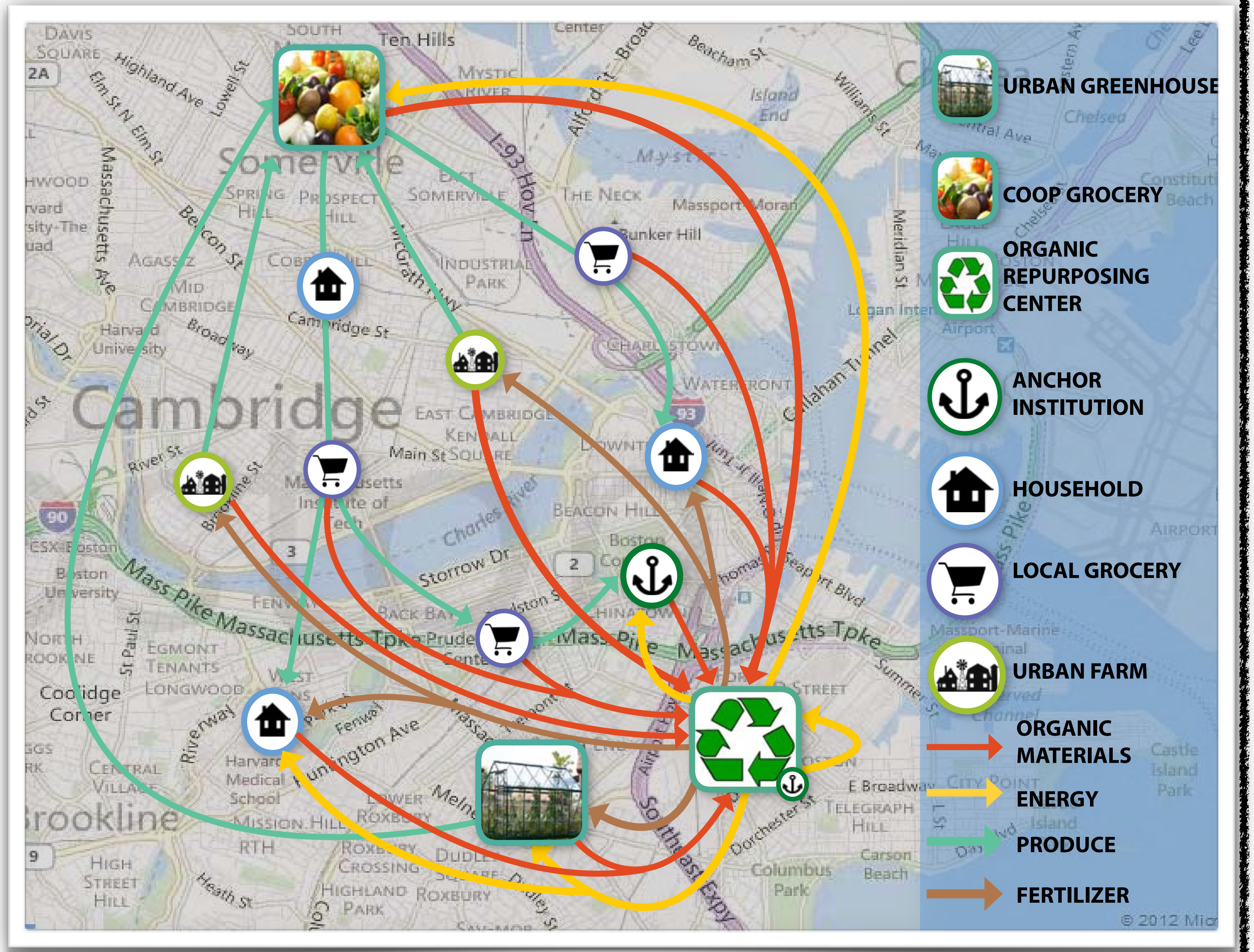

Figure 6: Mapping a Local Food Economy: Boston (Submitted by Earthos Design Team).

Figure 6: Mapping a Local Food Economy: Boston

Now that we have a clear framework of dominant economics, the Solidarity Economy, and the importance of food systems, we can begin to envision what a more localized food economy could look like in the greater Boston area. As you can see, major pieces of this food system are a cooperative grocery store, an Organics Repurposing Center, and an urban greenhouse. These first two enterprises will be discussed in greater detail in the sections to follow.

By following the arrows around the diagram, we get a sense of how produce, fertilizer, organic materials, and energy can cycle within the local economy. Establishing and networking key enterprises, like an Organics Repurposing Center, can add stability to this economy. Notice that this diagram is more similar to a web or network, as opposed to the more linear system depicted in the Walmart diagrams.

Section 3: Envisioning a More Just and Sustainable Local Food Economy

Chapter 6:
Somerville Economic Context

Before we can look into specific examples for building a more localized food system, we first must understand our own communities in terms of how the local economy functions. This chapter provides an overview of the demographics, political climate, and brief neighborhood descriptions of Somerville. What pieces of this information can we relate to the dominant economic model, or the Solidarity Economy?

Overview

Somerville, Massachusetts is a city situated just north of the City of Boston, bordered by Cambridge, Everett, Charlestown, and Arlington. It is the most densely populated municipality in New England with a population of 75,754. Historically, Somerville was a part of the neighboring city of Charlestown, until becoming incorporated in 1842. Then a relatively rural town, Somerville quickly became an industrial center. It became best known for the innovation of “Fluff”, the marshmallow crème used with peanut butter.

Once a low to moderate-income city, in the 1990s Somerville underwent a gentrification process ultimately earning the title as Massachusetts’ “Best Run City.” In addition to this recognition, Somerville is also known for its ethnic diversity, serving as a gateway city for immigrants - 26.8% of the population are foreign-born. Despite Somerville’s proverbial rise to the top, beneath the surface remains a city divided in terms of access to resources. For example, access to affordable and healthy food differs depending on which neighborhood you are in. Looking at food access alone can leave one realizing that there is still much work to be done in terms of equality and unity in the city of Somerville.

Current Context

The estimated median household income in 2010 stood at $61,731 compared to Boston at $55,979 and the state of Massachusetts at $64,081.

According to the 2010 Census, of the 75,754 people living in Somerville 6.8% are Black/African-American, 10.6% are Hispanic or Latino, and 73.9% are White. A substantial number of Somerville residents are foreign-born, hailing most commonly from the countries of Brazil, El Salvador, Haiti and China. Many foreign-born residents live in East Somerville, a geographic area that is primed for redevelopment. A former Star Market grocery store now sits vacant and according to the city of Somerville website, “The former Star Market site is one of the largest development parcels outside of Assembly Square and could anchor significant mixed use redevelopment for the neighborhood.”

Somerville has several anchor institutions, defined as institutions that have been and will continue to be in the area through challenging and even dire economic times. Traditionally speaking, anchor institutions usually take on the form of “meds and eds” meaning medical institutions like hospitals, and educational institutions like colleges and universities. In Somerville, Bunker Hill Community College serves as the local junior college. Somerville Community Hospital and Lincoln Technical Institute serve as other institutions that fit the definition.

Undoubtedly, Tufts University stands as Somerville's most recognizable anchor institution, having the purchasing power to draw major cross-cutting development initiatives within the city.

Political and Employment Climate

Mayor Joseph Curtatone serves as Somerville's current mayor and has already voiced his discontent with Wal-Mart as a "big box" store making its way into the city. It remains to be seen whether mounting political pressure over access to jobs will sway the mayor to change his decision. In the past 10 years job creation has remained relatively static, with about 20,699 jobs in 2010. According to several community development and advocacy organizations, it seems that access to jobs is at the top of the agenda within the Somerville community.

Planning and Development Climate

Beginning in 2009, Somerville created a comprehensive plan for the future of the city. The plan represents a twenty-year development period where the community has laid out where it would like to be by the year 2030. It is stated within the plan itself that its use is defined as a "framework for decision making" while at the same time allowing municipal officials to retain their authority.

The average household size in Somerville sits at 2 persons—significantly lower than national trends. The number of residents with a college degree has risen to over half of the population and has been increasing since the 1970s. With just under two thousand businesses, roughly a quarter of the tax base comes from commercial property.

The city provides numerous resources for small businesses and entrepreneurs to become involved with the development process of the city. With 10% of Somerville's land used for commercial purposes, the city's budget relies heavily on residential property taxes, as well.

Of particular note is that 125 acres of open space is available for development within the city - the local government is looking to "transform" the Inner Belt and Assembly Square.

Winter Hill

Located north of Medford St. and West of McGrath Highway sits a relatively diverse neighborhood. As the neighborhood with the highest rate of condominium activity since 2000, the interest in reinvestment and development of the neighborhood is clear. This is presumably due to the future Green Line extension. The area is currently characterized by high rates of housing turnover – vacancy rates are twice as high as Somerville overall.

East Somerville

Generally east of McGrath Highway and bordering Washington St. and Broadway sits this richly diverse neighborhood. With a substantial amount of subsidized housing in comparison to the rest of the city, gross rent values stand between $1000-$1250 in this area, as well as in the aforementioned Winter Hill neighborhood. Cost-burdened owner-households tend to be concentrated in both East Somerville and Winter Hill, and both areas have been affected by foreclosure.

Facts and Statistics In This Section Compiled From:

- US Census Bureau. (2010). Race, Hispanic or Latino, Age, and Housing Occupancy. *American Fact Finder.* Retrieved from DEC_10_PL_QTPL.pdf

- Office of Strategic Planning and Community Development. (2009). *Trends in Somerville: Housing Technical Report.* Retrieved from Housing Trends Report. Final-1.pdf

Chapter 7:
A Co-operative Grocery Store Localizes Food in Winter Hill

This Chapter proposes the idea of a cooperative grocery store in the Winter Hill neighborhood of Somerville, as a way to develop and enhance the existing solidarity economy entities in the area, and also as a way to help build a localized food system. As we have seen in the previous section "Food Systems," a more localized food system means good jobs, and more long-term health for the community. It should be mentioned that this idea of a food co-op was identified by community members independent of the research conducted by the field projects team. Thus, it is our hope that this report will either help fuel the community's campaign for a local food co-op, or help inspire other business ventures around the city.

Why a food co-op? Why in Somerville? Why at this site?

There is a pronounced need for food access in Somerville. Whether a person drives to the grocery store or not, the highway and city traffic make getting to a local supermarket a challenge. Additionally, residents need more than just a place to buy their food. The main crux behind why a local grocery could be a cooperative relates back to the Solidarity Economy principles in the aforementioned section.

Through the voluntary and open membership structure that is a staple of cooperatives, residents can latch on to an entity that is their own – something that is not as likely to simply leave the community. Having a share of the control and decision-making process in a business can empower residents to affect substantive change. A grocery cooperative can also serve as a space where different local businesses can come together to celebrate working together. Most importantly, having a grocery store that can serve as a nexus between communities within a divided city could serve as the springboard that really places the East Somerville and Winter Hill neighborhoods in a place to more fully partake in the prosperity of the entire city.

What is a grocery cooperative?

In what ways can communities be empowered to take control over a basic necessity that can bring people together? When it comes to living in a community, food is an interesting cultural and social rallying point with which many people can identify. This can be particularly true in diverse communities where the presence of familiar foods can remind burgeoning immigrant populations of the respective countries from which they came. Research that speaks to the inherent challenges around the introduction of a grocery cooperative within a local food system, pinpoint consumer trust as a "must have" (Orth, 2009). How do we think about fostering trust and good relationships within this example of a food co-op in Winter Hill?

Consumer Trust

"Trust is logically and experientially a critical variable in relationships (Hunt,1994). The perceived level of trust between exchange partners is a fundamental relationship model building block and is included in most models (Wilson, 1995). Drawing on Sirdeshmukhetal we define trust as ''the expectation held by the consumer that the service provider is dependable and can be relied on to deliver on its promises'' (Sirdeshmukhetal, 2002). Consumer trust in retailers has been shown to develop around two distinct facets, front line employees (FLEs), and management policies and practices (Orth, 2009).]

What does a community grocery co-operative look like?

It is through this lens of understanding that we come to realize the importance of establishing trust among Somerville residents, many who hail from dramatically different backgrounds in the neighborhoods of East Somerville and Winter Hill. So, how could a grocery cooperative get started? Where are the pressure points that a community can apply to ensure its startup, maintenance and success? And most importantly, how can we cultivate relationships built on trust from the beginning? Realizing that every situation, city, and neighborhood can pose their own set of challenges, there are a few different ways to consider initiating a proposed cooperative business.

Some examples of participating agencies include: governmental agencies such as the U.S. Department of Agriculture, community agencies such as local co-op developers, CDCs and community organizations. In other parts of the world, such as Canada and Europe, development funds are created, to provide funding support for the implementation of the given co-op business plan (Nembhard, 2006).

A grocery cooperative is a business. In that vein, considerations must be taken to ensure that the business can stay afloat while retaining its mission and core values. In this sense, "developing a worker cooperative is much like developing any other type of for-profit business, with the main differences being the governance structure and profit distribution" (Warner, 2006, 10). As displayed in Chapters 3 and 4, co-ops can take on many different forms. In order to build support and trust for the business, it is most optimal to have a deliberative process within the community focusing on such issues as governance structure and profit distribution.

"A very popular and growing model, especially among low-income groups, is the agency-initiated model. A private or government agency pulls together a group of people, trains them, provides management in the initial launch, and slowly turns the business over to the owner/members. The agency raises money for the project through grants from foundations, government sources, and a variety of loans and raises equity from among the members. In addition to handling much of the capitalization, the agency also handles business planning and training"
(Nembhard, 2006).]

Next Steps: Somerville

Here we have outlined a general sense of what steps to take in starting a co-op, and in what order. This list is not representative of the extensive community collaboration process essential to developing such an idea, as the community should lead from the start:

A. Decide on a business idea
B. Conduct feasibility analysis to determine if the business idea selected is viable
C. Create business plan
D. Schedule pre-start-up activities, identified from the business planning process
E. Create a proposal to obtain financing for business start-up

(Warner, 2006, 8)]

A business plan will be needed to address issues of funding that, as you will see below, necessitate a well formulated idea of what the grocery cooperative will look like. The U.S. Small Business Administration states on its website that a business plan's body can be broken up into four major parts: 1) Description of the Business, 2) Marketing, 3) Finances, and 4) Management (US Small Business Administration, N/D).

A more achievable and short term step to developing a comprehensive business plan, (which can take years to complete), is outlined in the book *Putting Democracy to Work: A Practical Guide for Starting and Maintaining Worker-Owned Businesses* (Adams, Hansen, 1993). These are questions that can start to be addresses once a given business idea is identified - for example, the food co-op in Winter Hill.

Keeping in minf that starting a grocery cooperative in any community is an inherently difficult and iterative process, having a structured guideline can be helpful. Retaining the flexibility to move between these points strategically will be essential. However, deviating from some form of plan to the point of utterly disregarding it could be damaging. It is useful to think about monitoring and evaluation during this process as well. Recording where a community starts (a baseline report), where a community wants to go, and all points of progress and downfalls in between, can be helpful in the learning process.

WHAT CAN WE THINK ABOUT NOW?

1. **Product Plan** - What will be sold in the grocery cooperative and how will demand be monitored with changes being made accordingly?

2. **Marketing Plan** - How does the "branding" of the grocery cooperative and community connections engendered build support for its presence?

3. **Raw Material Plan** - What background research needs to be conducted to ensure a sustainable supply chain in which the flow of product in and out of the store ensures the freshest and best produce available to patrons and worker-owners.

4. **Financial Plan** - Determining financing options and having a few scenarios readily available to discuss with residents, government officials, other community groups.

5. **Taxation Plan** - With a relatively small amount of square footage, ensuring a solidified game plan for paying for property taxes and other expenses will necessitate an auditor or tax specialist.

6. **Personnel Policy and Staffing Plan** - this will be intricately tied to the education plan because ensuring that workers have a solid understanding of how the cooperative will operate and what their role in it will alleviate disputes that could arise concerning the hiring and firing of personnel.

7. **Governance Plan** - The development of by-laws that delineate the structure and decision-making process of the cooperative business.

8. **Social Audit Plan** - Determining monitoring and evaluation strategies for the business to ensure that it meets or exceeds the expectations of all parties involved.

9. **Education Plan** - What does community outreach look like and how does the information gathered from the previous steps assist in this process?]

Getting started in a Somerville community

Organizers who are still in the preliminary stages of starting a grocery cooperative in Dorchester, Massachusetts, highlight the importance of connecting with other cooperatives that are nearby for support (Silverman, Jenny, personal correspondence, April 19, 2012). They make clear that talking to people in organizations and around the community is necessary to ascertain what the community feels regarding the prospect of a particular project.

In Dorchester, gathering contact information and hosting a meeting gave the opportunity for input from all parties on what a grocery cooperative would look like in their neighborhood. Seeking out incorporation to usher in a period of finality and gaining support from city and state agencies is a good idea to pursue early and often (Silverman, 2012).

With the political climate surrounding this particular site in Somerville, it may ultimately be decided that this idea is not a possibility. However, creating these cross-sector partnerships when starting a cooperative business, especially in terms of seeking financial capital, will be beneficial.

Other strategies for starting a cooperative include the creation of a preliminary workforce chart and the creation of a job ladder (Silverman, 2012). These tools give incoming workers a sense of what they are entering into as well as the opportunities and paths towards advancement. Furthermore, organizers suggest ensuring that having a diversity of people on the leadership team to start the cooperative will be somewhat indicative of what the business will look like at the end of the planning process (Silverman, 2012).

Opportunities for the cross-training of workers can be helpful as this increases the skill-set of workers in this collective group. In Dorchester, the desire has been to be part of an even larger system, including reaching out to retailers in a cooperative fashion, rather than regarding them as stark competitors (Silverman, 2012).

If a co-op grocery is the agreed upon business idea, before an actual campaign is begun to rally residents around the idea, some specific research is needed. In actuality, background research (such as the points listed under “What can we think about now”), and organizing can take place concurrently, and probably should (Silverman, 2012).

However, it is extremely helpful to bring together community members and experts in the field to thoroughly work through the complex questions related to the division of labor remuneration, and the decision-making structure. These questions must be worked out in advance because financial returns will likely be low in the first few years of operation; if people know exactly what they are getting into from the start, they will be less likely to object or deviate from the business plan (Silverman, 2012).

In addition to the aforementioned considerations for starting a co-op, the Food Co-op Initiative roughly delineates what they term the “Food Co-op Development Model.” This model may seem intuitive, yet it is a good reference for bringing more structure and accountability to the preliminary administrative tasks necessary in developing a specific co-op business idea.

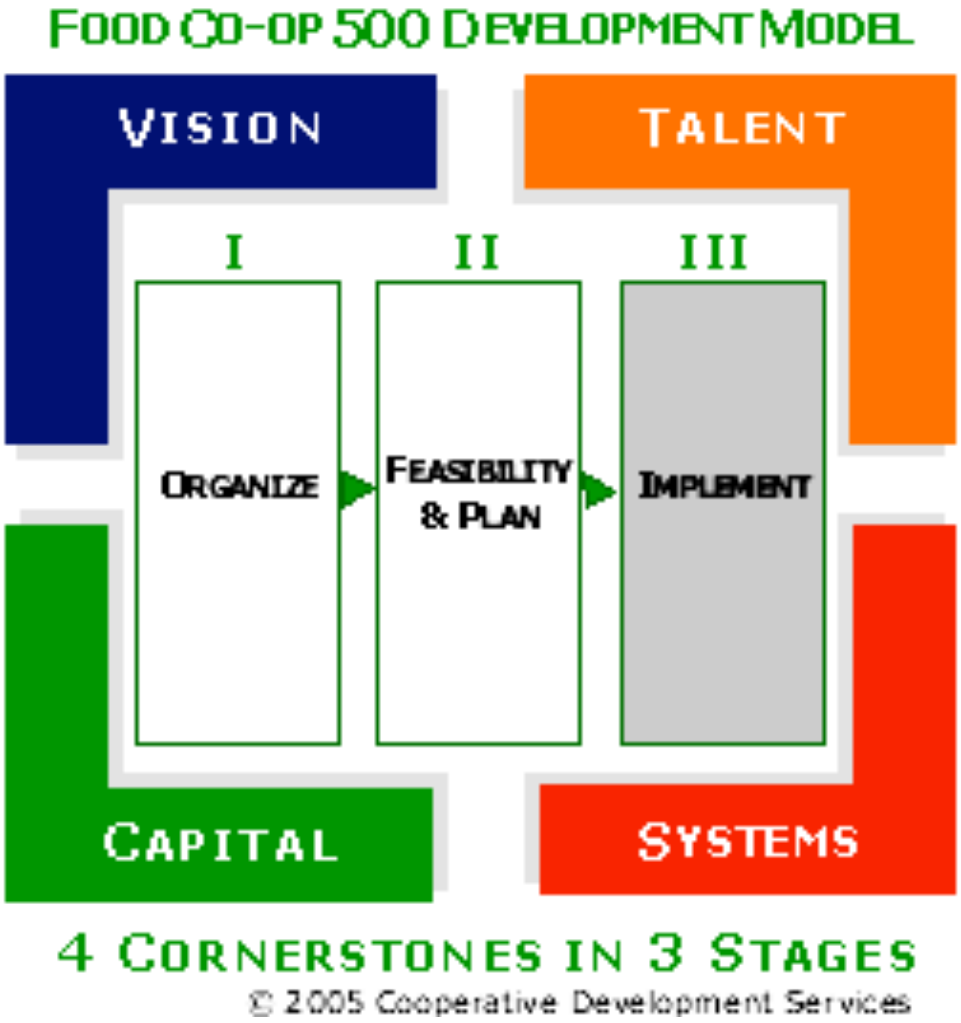

Figure 7: Food Co-op 500 Development Model
Cooperative Development Services. (2008). Four Cornerstones in Three Stages. Retrieved from: http://www.cdsconsulting.coop/fourcorner

This model outlines 3 separate "stages" of development:

1. Organizing
2. Feasibility
3. Implementation

Within each of these 3 "stages" are 4 "cornerstones" necessary to ensure the creation of a strong and sustainable systems model. Consistently reviewing and reflecting upon these cornerstones throughout the three stages ensures a process that does not leave people behind or leave thoughts off of the table. What will ultimately result is a solidified plan of action for running the business in a way that has taken into consideration the concerns of all stakeholders.

Out of the 3 development stages, we highlight two below. Looking at all three in their entirety can be daunting. However, taking a piece at a time is manageable, especially with a dedicated group of co-owners. Please refer to the website (www.cdsconsulting.coop) for more information on other necessary stages.

From our vantage point, Somerville seems to be currently standing in between Stages 1 and 2 right now. Within the limited framework of these models, a sense can be gleaned as to possible next steps. Fully revisiting Stage 1 could still prove to be a useful exercise at it entails clarifying peoples' needs and positions concerning the want or need for healthy accessible food. It could prove to strengthen the foundation before moving forward. On the other hand, it could reveal that a coop grocery is not the best option, and could bring forth another idea better suited to collective community needs.

Stage I: Organizing
Brings about the organization

- ☒ One or more people start with an idea
- ☒ Recognition of a common problem or need that a food co-op could meet includes
  - o Convening a core group
  - o Assessing common interest and needs
  - o Designating leadership
  - o Building a shared vision
  - o Committing time, money and other resources

Stage II: Feasibility & Planning
Brings about the operation

- ☒ An organized group with commitment, interest and capacity
- ☒ Assesses market potential and internal readiness
- ☒ Includes
  - o Feasibility – deeper assessments of financial, market and organizational capacity
  - o Planning – a business plan for financing and operations
- ☒ Builds commitment and capacity (both leadership and management)
- ☒ Brings about a secured site for the operation

Stage III: Implementation
Brings satisfaction of Member needs

- ☒ Demonstrated capacity in all the cornerstones
- ☒ Includes
  - o Preconstruction
  - o Construction & Renovation
  - o Preparation for Opening
  - o Sustaining - First Year and Beyond

Outline Sourced From Cooperative Development Services. (2008). Four Cornerstones in Three Stages. Retrieved at: http://www.cdsconsulting.coop/fourcorner

Starting a steering committee of a few dedicated individuals is essential. Even among a small steering committee, it is important to start to crunch some numbers and get some idea of the prospects for a grocery cooperative. Please refer to Appendix D "Sources and Uses." This document outlines a simple yet helpful spreadsheet to carve out where the money to finance a cooperative store is coming from, and what how that money will be used. Constructing a development budget can help to guide some conversations, especially when held with community residents (Silverman, 2012). Not having shown this thinking and consideration can leave community residents feeling remiss and even disenchanted.

Would a grocery co-op be competitive in a community?

The mission of food co-operatives generally is to provide low cost, healthy food primarily to members of the co-op and the greater public. Food co-ops are operated for members by members at a non-profit or cost basis. Individuals who belong to the co-op have a say in decision making over issues surrounding the organization. Most food from co-ops is either organic or 'natural' - produced with a minimum of processing using few additives or preservatives. Critical to a coop grocery in Somerville will be ensuring that the food remains not just healthy, but culturally relevant to the surrounding community. In addition, it is imperative that affordability takes into consideration all income levels.

With constituents from various parts of the Americas as well as the Caribbean, staple foods such as plantains and yucca could be key to attracting consumers into the store. Some cooperatives, such as the Harvest Food Co-op in Cambridge and Jamaica Plain, have addressed issues of affordability by utilizing the government standard as a metric (Durkin, Chris, personal correspondence, April 18, 2012). In other words, they follow the SNAP/WIC/EBT regulations and provide discounted produce for those customers who participate in these programs. Although the argument could be made that this is not the sole measure of a customer's ability to pay, it seemed to be the least intrusive way to take into consideration the needs of low-income families (Durkin, 2012).

The grocery cooperative proposed in Somerville could include additional components that would ensure a sustained measure of influence in the community. Namely, a grocery cooperative may not last forever, but the impact that it could have in terms of bringing healthy foods in a community may be valuable. In terms of building and strengthening a *sustainable* food system within a local community, it is evident that such an undertaking is not simply about food:

> *"Sustained improvements in dietary behavior often benefit from long- term, repeated exposure to behaviorally focused nutrition education through a variety of channels and in ways that can compete in today's marketplace. These range from small groups that participate in interactive education to large-scale social marketing campaigns. These efforts feature multiple channels of communication, along with system, environmental, and policy change as a way to reinforce healthy nutrition behavior"* (Gregson, 2001).

Coupling an intensive social marketing campaign with a proposed grocery cooperative to local, family-owned restaurants would also be advantageous. Research has shown that consumer loyalty to a local, family-owned business is relatively fickle, meaning that consumers are not likely to stick with a particular business through thick and thin, simply because it is locally owned. However, what has been found,

and what would be necessary to consider in this context, is that there is still a relatively large amount of trust built with family-owned businesses from residents (Orth, 2009). Ensuring that the grocery cooperative does not sit on a food island all by itself is key. There are endless ideas for how this food co-op could be linked to other facets of the community. Revisiting our discussion of the solidarity economy, and emphasis on building local food systems, a few ideas that fit into this model:

A.) A combined food co-op/ distribution center
B.) A combined food co-op/ commercial kitchen

Dorchester: A Local Example of developing a food co-op

Through the aforementioned guiding cooperative principles, a mission and business plan can be developed that caters specifically to the needs and desires of the community residents. To truly embody the vision of a cooperative grocery store, power and belief need to be built and garnered in a way that gives a community the momentum to succeed. As mentioned, in Dorchester, Massachusetts, such an undertaking has developed quite recently.

As a result of three cooperative farmers markets being started in the City of Boston, the idea of a food co-op was fresh and new within Dorchester (Wool, Joel, personal correspondence, April 19, 2012). Because this initiative is currently trying to muster support, ensuring that the social and political climate is right could be the difference between having a strong base, or finding the community divided. Through the work of community organizing roughly 600 people gathered together, garnering the attention of the Mayor of Boston as well as a representative from the Boston Public Health Commission. How to foster this kind of momentum is best left to local community organizers and advocates well versed in campaigning and capacity building. What is unequivocally true is that power needs to build in an intentional way, with good timing, to ensure a strong base of support for such an initiative (Silverman, 2012).

Regardless of the momentum built and the press garnered, one simple fact remains: once the co-op opens, it needs to sell and it needs to sell well (Silverman, 2012). The beginnings of the Dorchester cooperative entailed not only the creation of a business, but the creation of a culture and lifestyle that was intrinsically and intentionally intertwined. Activities and entertainment such as music, community gardening, educational components, and performances were incorporated into the overall social aspect of the store. Through social interactions and connections the cooperative can morph from something as simple as a store, to a solid and supported institution (Silverman, 2012).

The context of a grocery co-op in Somerville

The time has never been riper for the proposal of a grocery cooperative in Somerville. Situated between the neighborhoods of East Somerville and Winter Hill, an abandoned Star Market site has stood vacant since 2007. Since that time, community residents have had to make lengthy, challenging travels to access healthy and affordable food. With a total of fourteen grocery cooperatives spread across Massachusetts, this proposed cooperative differs in the sense that it would be situated in a neighborhood with a diverse makeup of people, tastes, and traditions.

To establish a grocery cooperative in Somerville, and extensive predevelopment phase would need to be undertaken. This includes soliciting the proper expertise to support the initiative, including from the surrounding businesses in Somerville. It also includes investigating

any available government funding for start ups or for expansion. Some successful grocery co-ops in the inner city have found that expanding into a low-income area designated as an Enterprise Zone could be an entry point into funds held by the state and federal government. In this sense, the lines start to become blurred between community development and business development, which is also a strong ideological standpoint that local community development and advocacy organizations need to consider before making some of these "business" moves.

Linking co-ops helps money stay within the community

How does a cooperative function, especially within the context of Somerville? A cooperatively-owned grocery store necessitates linkages between other community businesses. For example, products can come from local farmers and artisans, and consumers come from local residents, restaurants and businesses (Silverman, 2012). In order to deepen this kind of support and recognition, a major step in setting up the grocery cooperative would be to join the National Cooperative Grocers' Association (NCGA) by either establishing or joining a chapter here in Massachusetts. One benefit of belonging to NCGA involves marketing support - both community members and those outside the community can search and access information about the co-op via their database. They further provide technical services and access to useful resources (NCGA, N/D).

Due to the spread of existing cooperatives in Massachusetts already, there may be local connections to this national body. What makes NCGA innovative and different is that it is a cooperative as well (Silverman, 2012). This connection and realization helps lend further credence to the principles of the Solidarity Economy, keying in on making connections to other thriving cooperatives and industries to gain and retain democratic control and power throughout society.

Somerville's current food "system"

Food is an incredibly powerful tool to bring people together within and across communities and the city of Somerville is no different. As mentioned previously, the Star Market located in Winter Hill closed in 2007. In an area where most residents purchase food from grocery stores (as opposed to CSA shares, farmers markets, or specialty shops), this closure was a huge hit to residents.

The nearest grocery store to the old Star Market site is a nearby Stop&Shop supermarket, which is placed at the edge of a local highway. It does not adequately cater to community residents who would need to cross numerous lanes of traffic to access the available food. Another grocery store, Market Basket is located near Union Square, and because of its diversity in products and low prices, it proves to have a consistently high level of pedestrian traffic and store overflow. This brings to light the high demand on the part of consumers. In fact, when mapping

Case Study: NCGA

The National Cooperative Grocers Association (NCGA) is a business services cooperative for retail food co-ops located throughout the United States. We represent 125 food co-ops operating over 160 stores in 35 states with combined annual sales of over $1.4 billion and over 1.3 million consumer-owners. NCGA helps unify natural food co-ops in order to optimize operational and marketing resources, strengthen purchasing power, and ultimately offer more value to natural food co-op owners and shoppers everywhere."
(NCGA, N/D).

out the available grocery stores for Somerville, it is clear to see that groceries surround the fringe of the city, and residents must to travel an average of one mile to gain access to food. It should be mentioned that there is increasing participation and popularity in Somerville's farmers markets, however, this option can be more expensive than grocery stores.

Placing a local grocery co-op at the old Star Market site (between the Winter Hill and East Somerville neighborhoods) would serve as an impetus for bringing a diversified constituency together. It is assumed that because the purchasing power of a co-op is greater than that of the individual, **locally grown** foods, which are culturally sensitive and diverse, and could be sold at more affordable prices.

Cost Hurdles

There is no doubt that besides increasing access to healthy foods, Somerville residents want more jobs. The word 'job' is mentioned in the comprehensive plan twenty-nine time. With that said, creating a grocery cooperative within Somerville will certainly not bring about jobs in a quick fashion. Rather, the push for cooperatives to expand into the inner city is rife with challenges, which can be met head on and mitigated as long as community residents and stakeholders are prepared.

There are two key factors determining the availability of quality food in low income communities:

- The cost of running stores in the city is driven up by lower volume, higher insurance, property value and other operating costs;
- Quality food tends to be more expensive than it is in the suburbs.

Looking at grocery cooperatives across the country, it is clear that there is not a definitive way to begin. The Davis Food Co-op in California, started out with 100% volunteer labor all the while quickly following up with a "daily coordinator" to assist with administrative tasks (Walter, personal correspondence, April 2012). Other cooperatives start all workers at the same wage and then create a system where payment increased after a certain number of years. All in all, cooperatives must work extremely hard in order to be profitable, and sometimes business models may need to shift in order to accommodate times of low surplus. In this regard, wages in the beginning years vary from coop to coop (Walter, 2012).

Numerous cooperatives have moved on to providing their workers comparable and competitive benefits. It would be wise in the creation of a grocery cooperative to seriously consider how to finance employee health care, including doctor, dental, and eye care (Walter, 2012). In that same vein, workers' compensation and insurance tend to be quite expensive. One or two cases against a cooperative as a result of an injury on the job could result in the cooperative being shut down. Further research would be needed to determine how to address this issue in a way that ensures that the cooperative is sustainable and well protected. Although some cooperatives have worked to provide living wages to their members, this continues to be an elusive task or one that does not adequately address quality of life among workers. In some cooperatives, a lot of the onus is placed on the Board of Directors (BOD) to handle the wages, benefits, hiring, firing and a change in business working in tandem with the voting power of the workers (Walter, 2012).

Although community development groups often have experience creating affordable housing, the results of their efforts in this arena may not be consistent. Coupling that with the different skillset required for

business development, turning to a local CDC may pose a challenging problem, albeit not completely insurmountable. A market analysis incorporating space considerations and comparisons should be undertaken to determine how a lower square footage, may affect product cost.

Co-op history is full of both successes and disappointments (Walter, 2012). Each has an individual story, but common themes in coop closures usually involve lack of popular base in the neighborhood and a battle for economic viability. The most successful cooperative ventures tend to come from support by anchor institutions and through support from the city government. These factors are worth keeping in mind when considering costs and the subsequent details around job creation and salary potential.

Does this fit into the Somerville Comprehensive Plan ("SomerVision")?

The proposal of a grocery cooperative fits snugly into "Somervision", because of the nature of the business model. Keeping in line with the "Implementation Priorities" of the plan and the challenge from community residents for their city to take the lead on issues of sustainability, providing residents with access to fresh foods is paramount. The residents make a call for action:

In this regard, the grocery cooperative can easily tie into current work being undertaken in the city by businesses like Green City Growers, concerning quality food. The questions that should be raised before the installation of a grocery cooperative in Somerville could include an investigation into how a grocery cooperative can further complement the work being done by Green City Growers. This may take the form of Green City Growers partnering with the cooperative to engage in community education initiatives.

Sustainability Programs Should Include:

a. Solid waste programs
b. Energy efficiency programs
c. Stormwater management policies
d. Transportation demand management
e. Public health programs, including air quality and access to fresh foods

(Somerville Comprehensive Plan, pg. 25)

Action:

Encourage retail activity that will provide fresh food and other unique products, enhance social connections, and reinforce Somerville's culture of funky independent businesses and small micro-enterprises.

(City of Somerville, 2009, 36)

Further evidence abounds that such a proposal is in strong alliance with the desires of community residents with regards to health and wellness. Regarding the Shape Up Somerville program the master plan boasts, "the program has earned national recognition for its work to reduce childhood obesity, increase physical activity in public schools, and **promote access to fresh food** for all Somerville residents." (City, 2009. 76)

As interesting and compelling as the evidence is, we would be remiss to bring about such excitement over these synergies without mentioning the obstacles and pitfalls that might hinder such a pursuit.

Potential Pitfalls - What can we learn from similar cases?

Long time social activist and cooperative guru Art Danforth outlines some challenges that urban co-ops face when starting up. Though his list of items is nearly twenty years old, a recent co-op panel identified many of the same problems. The challenges include the need for:

1. *A solid community organization:* though they might not have technical experience, local groups know their constituents, know local priorities, and know who are the power brokers who can help with potential impediments to start-ups;
2. *Getting appropriate feasibility studies completed:* professionally done studies should consider the potential for not simply a grocery store (natural vs. conventional product) but also the potential interest in a cooperatively owned store;
3. *Identifying technical assistance:* the community group must acknowledge its own limitations to starting and running a business and find appropriate help;
4. *Member recruitment, education and equity:* the unique qualities and challenges of the cooperative structure must be acknowledged and planned for at the outset;
5. *Strong management:* again, a critical acknowledgment by the founding group that they do not have the expertise to run a successful food cooperative; and lastly,
6. *Support from related cooperatives.*

Overall, the benefits of starting and sustaining a grocery cooperative could build an immense amount of community power. It is quite important to proceed with caution because the overall system of which the grocery cooperative would live in tandem with is rife with rules and regulations that could prove to be tricky:

> *"The magnitude of social and environmental change needed to make and sustain healthy eating and a physically active lifestyle can be profound, and the challenge of eliminating disparities experienced by low-income individuals can be even more daunting. System, environmental, and policy changes at local, state, and national levels may occur slowly, but research from tobacco control suggests that attention to these levels of influence is necessary when individual and interpersonal behaviors are not enough to overcome negative environmental influences. Since such changes make healthier living easier for large numbers of people, they are also very efficient and ultimately may be the only way to sustain healthful environmental and behavior change in a dynamic, competitive marketplace environment"*
>
> *(Gregson, 2001).*

Historically, the challenges around opening up a grocery store within an urban setting such as Somerville have proved grim. So, what steps are necessary to take to ensure the vibrancy of a grocery cooperative within a local food system? This remains unchartered territory, especially in terms of navigating the difficulties successfully. A study of an attempt to open up an urban grocer in New York spells out the difficulties they faced, and along with it the pitfalls to avoid.

Danforth, Art. (1997). *Can We Help Build Inner City Co-ops?* Retrieved from: http://www.cooperativegrocer.coop/articles/2004-01-09/can-we-help-build-inner-city-co-ops

Additionally, discussions over what *type* of grocer the cooperative can be a hurdle residents. The advent of a grocery cooperative providing fresh food is one aspect, but when the turnover of the produce is too fast it can lead to confusion over the "branding" of the store (Walter, 2012). People want something tangible that they can explain. If the store does not establish an identity that is clearly in tandem with the cross-section of Somerville residents, it could be doomed from the beginning (Walter, 2012).

Somerville, on its surface, may be one of the best places to live in the New England area. However, underlying the awards is a city that remains divided, and the grocery cooperative's task may very well be two-fold: serve as the bridge between two communities, along with providing healthy and accessible food choices. Going back to our example from New York, the center text box shows stakeholders helping to explain the importance of "branding" early on.

Expansion of an already successful grocery store into the area may prove to be a more business savvy move than creating a grocery store from scratch. Having a model and outside expertise can certainly be frowned upon by many communities, particularly low income communities who may have historically been taken advantage of by predatory lenders and businessmen. Aside from this realization is the stark reality that the campaigning, community organizing and advertising for a grocery cooperative can be handled by local CDCs, but having the capacity to run the business of the cooperative once it is created proved to be a challenge for New York residents.

Identity

In addition to the inability to reach a consensus of what type of store the ENY-FC would be, branding the store became difficult because of inconsistencies in what types of products the store carried over time. One participant commented: "...Like [there is] too little produce to where people actually come in and are looking for those things they can't find it when they need it.'

Another issue that arose regarding branding the store was the poor first impression that left potential customers from coming into the store again.

(Morland, 2010).]

What we see here is an iteration of yet another idea that ultimately failed. Attempting to illicit advice from successful grocery cooperatives probably will not adequately account for the amount of expertise necessary for the cooperative to flourish. There is something to be said about having someone on site who has the experience to handle the day-to-day operations of a cooperative (Walter, 2012).

This is not meant to say that *certain* community residents do not have the capacity to run the grocery store and it will be up to lo-

Challenges

The participants mentioned several important problems that arose early in the planning and implementation phase of developing the new business, including issues related to the: (1) physical space; (2) branding the store; (3) stocking; (4) pricing; (5) membership; and (6) marketing
(Morland, 2010)

cal CDCs and community advocacy organizations to work in tandem with residents to identify the capacity and assets of their own community. Identifying key stakeholders with the expertise and business know-how to engage in the running of the cooperative should be seen as a first step before looking outside of the community.

Expertise

The required expertise in food retail and accounting were identified as areas that needed improvement: 'The reality is that none of us that are involved in the project . . . have experience specifically on how to open a grocery store.' This lack of extensive business experience by the group was viewed as having an impact on the management of funds, marketing, and decisions about running the store. Although the community partners relied on advice from the store managers working at two local food cooperatives, the lack of a consistent staff person with food retail experience was identified as an oversight.
(Morland, 2010)

Building a sustainable food system that includes most if not all of the components that community residents demand, from the availability of healthy and fresh foods to the availability of jobs, will take much more than business expertise and political know-how to work. In that vein, creating sustainable systems entails a change that cuts across different field and disciplines. To truly foster support regarding a local grocery food co-op it is imperative to get a sense of what perceptions of local grocers may be in a local community.

We did not have a chance to engage in this qualitative research with Somerville community residents and stakeholders in a direct and meaningful way. However, there are examples that we can glean from similar situations across the United States that can shed light on the social perceptions of a local grocery cooperative. In a report conducted in New York (again) researchers investigated what perceptions a diverse contingent of low-income residents had of food grocers within what they described as an "ecological framework" (Webber, 2010).

Ecological Framework

"Twenty-eight low-income rural, village, and inner city heads of households in upstate New York, USA, were selected by purposive and theoretical sampling and interviewed about fruit and vegetable shopping habits, attitudes toward local food stores, and where and how they would prefer to buy produce. Analyses revealed their concerns were organized around five themes: **store venue; internal store environment; product quality; product price; relationships with the stores.** An unanticipated finding was the differing social relations that appear to exist between participant consumers, store employees and management, and the store itself as a representation of the larger retail food system. Attitudes toward retail food stores in this study are described as passive or fatalistic indifference, supportive, opportunistic, and confrontational (change agents)"

(Webber, 2010). Emphasis added.

Somerville residents can see themselves as the "change agents" category that follows a blend of the others. To forge a path that deviates from normal pragmatism while also sidestepping impractical, blind optimism can prove to make a difference, or a change, in how the local food system operates in East Somerville and in Winter Hill.

Financial Considerations

It is important to integrate financial considerations into this forward thinking vision. There are some upfront costs and considerations surrounding the source(s) of funds for the grocery cooperative.

The two main cost components to consider when starting a grocery cooperative are the start up costs and the net operating income. The former Star Market site is approximately 40,000 gross square feet. In terms of keeping the site and rehabilitating up to appropriate standards, it would take about $75 per gross sq. ft, or a total of $3,000,000 of upfront "hard" costs. Concurrently, there are "soft" costs that come in the form of expenses for the needed technical expertise (architects, consultants, etc.) which will be an additional expense. Going back to our example, 10% on top of the initial $3 million combines for a total $3.3 million in upfront costs (Attia Mark, personal correspondence, April 18, 2012).

What are some avenues to pursue in addition to a fundraising campaign? There are a few preliminary funding sources that can be investigated.

Bank Loans

Bank Loans may prove to be the fastest and easiest way to finance the costs of the project, and would most likely be a major source of captal. What communities can lean on is the helpful but recently unpopular Community Reinvestment Act.

Basically, CRA forces bank institutions to invest back into low to moderate-income communities. What is in it for banks? Simple. They are incentivized. What that means for local community organizations is that roughly 50-60% of the $3.3 million dollars could be covered. This heaping loan could be paid back in a traditional manner, namely by subtracting the operational expenses (taxes, electricity, insurance, miscellaneous) by the total revenue to determine the grocery cooperative's net operating income. It is from this pool of leftover money that the loan debt would be repaid in increments.

Grants

Grants are a great way to gain money that does not have be paid back over a certain period of time at a certain interest rate. It is essentially free money. Furthermore, it can be given out when local or national, public or private corporations are in agreement with what a community group is executing. Within the context of Somerville, surrounding organizations with the financial capital to more of the $3.3 million dollar cost include: LISC, Enterprise, and The Boston Foundation.

Fundraising

Fundraising is a great tactic for engaging in community education and empowerment. Establishing and maintaining connections within a community can only be successful if the actors are actively engaged with the community in meaningful ways. It also serves as an opportunity to express exactly what a cooperative is doing.

Tax Credits

New Market Tax Credits is a program that was pinned by former President Bill Clinton as "the most significant effort ever" in terms of

Tax Credits

The New Markets Tax Program builds on what the Clinton administration regarded as successful recent innovations in the federal government's approach to community economic development and poverty alleviation. These innovations include a reliance on financial intermediaries and the use of tax credits.
(Rubin, 2005)

helping to leverage private investment for the benefit of distressed communities (Rubin, 2005). The NMTC program is meant to create more synergy between the public and private sectors to invest in older neighborhoods in urban areas, as well as older suburban areas.

The upside of using this strategy to fund the grocery cooperative is that they do not count as a direct budgetary expenditure, thereby making it a bit more politically feasible (Rubin, 2005). Applying for these tax credits requires an application which delineates the plan of action for the community. The application has to show intentionality in four substantive areas: business strategy, capitalization strategy, management capacity, and community impact.

Once a grocery cooperative is up and running, how will it fare in the market? What is the added value of a Somerville grocery cooperative?

A grocery cooperative in Somerville is not starting in isolation. Massachusetts is rather solidified with a set of grocery cooperatives that are not only successful in their own right, but also supportive of one another. Under the auspices of organizations such as the Cooperative Grocers' Information Network (CGIN) and the National Cooperative Grocers Association (NCGA) there are umbrella institutions available to help facilitate and maintain the process of instilling a grocery cooperative into the community. With grocery cooperatives thriving in similar areas since the 1970s, opening up a grocery cooperative that allows access to fresh, ethnically diverse and suitable food is not far fetched. The main example that a grocery cooperative in Somerville can follow is that of "serving the people first" with the idea of encouraging people to make a push towards natural, organic, and healthy foods.

A local grocery cooperative may not provide the same amount of products as a traditional, for-profit grocery store (about 9,000 products in comparison to 50,000 available products). However, the benefits of a worker-owner-consumers culture can still outweigh this 'drawback'. What this means is that, at least at the very successful Park Slope Cooperative, competition from nearby Trader Joe's was kept at bay despite the major amount of products. Instead of the cooperative membership declining, it was discovered that by having a local grocery store in the area, consumers were exposed to more types of organic foods. The subsequent new and increased demands could be addressed more efficiently by the grocery cooperative that did not have to respond to middlemen (executives and shareholders) (Kowitt, 2010).

Here is a more comprehensive listing of possible sources of funding for further research. A compilation of corresponding local resources would be beneficial here:

- ***money from co-op members***
- ***angel investors - a rich individual who provides money for a business start-up, usually in exchange for convertible debt or ownership equity***
- ***self-directed IRAs***
- ***local economic development offices***
- ***state minority and small business development offices***
- ***local chambers of commerce***
- ***small business development centers***
- ***USDA business and industry loan programs***

These are only small, starting suggestions to get a sense of what a grocery cooperative would look like from a financial perspective. It is by no means an all-inclusive account. The appropriate way to go about financing such a project is best left within the hands of the community who can adequately decide the amount of loans and corresponding amount of risk it may need to take on for this idea come to fruition.

A Co-op Is Still A Business

"My own interest in worker cooperatives spawns from their democratic and egalitarian nature, and my opposition to worker exploitation embodied in capitalist businesses. However, a worker cooperative cannot survive based solely upon ideals. In order to survive – and succeed – as a business, a worker cooperative must compete in the marketplace with other businesses in a manner which will bring in revenues beyond expenses. Even though worker co-ops are dramatically different from other businesses, this basic premise still applies"

(Warner, 2006, 24)

Conclusion

The creation of a grocery cooperative, whether it be worker-owned, consumer-owned or some other version, is a valiant and challenging goal. When it is seated in a current economic system amongst competitors functioning based solely on the bottom line, retaining a set of ideals while at the same time remaining competitive is no small task. There may be the amazing excitement and synergy created as a result of some of the ideas circulating among and between community residents, but it is important not to let this excitement overpower sound reason and proper planning. Rather, it is important to have excitement complementing a firm resolve to create a sustainable cooperative that is seated within a sustainable food system to ensure longevity. On that note, an author warns of a dramatic fate that community groups, municipalities, and all stakeholders should bear in mind all through developmental and maintenance stages of a cooperative business:

Further resources for starting a worker cooperative business are close by to Somerville, in the neighboring City of Boston. The ICA Group, described on their website as "a national not-for-profit organization which seeks to create and save jobs through the development and strengthening of employee-owned cooperatives and community-based projects. ICA provides a full range of business consulting and technical assistance services, education, and financing to clients working in or seeking to start worker-owned and community-based businesses" (ICA Group, N/D). Additionally, the U.S. Federation of Worker Cooperatives can offer additional support (US Federation, N/D). There is no reason for a community to feel that the onus lies on them and them only for the creation of the business. In fact, the premise behind a cooperative is cooperation, and collaboration, for the realization of one's goals. It is through this framework that we hope to provide a community with not only a sense of what is, but the very best sense of what could be.… **A practical vision.**

Figure 8: Rendering of Co-op at Winter Hill Site (Submitted by Earthos Design Team)

FIGURE 8: Rendering of Co-op at Winter Hill Site

What could a food co-op in Winter Hill actually look like? Because most small restaurants or grocery stores in the area sell products that are coming from outside the region, what would it mean to create a space where local and affordable products could be bought and sold? This rendering is an attempt to depict certain values recognized in the area, such as affordability, health, sustainability, equity, walkability, and empowerment. As part of a community outreach process, deciding upon shared value sets for this site will be essential in creating the space that works for all.

Chapter 8:
Current Roxbury Economic Structure

The following chapter was compiled from two primary resources:

US Census Bureau, (2010). Summary File 1, Boston Redevelopment Authority Research Division Analysis. Retrieved from RoxburySF1NBHD.pdf

US Census Bureau. (2010). American Community Survey 2005-2009. Retrieved from http://www.census.gov/acs/www/data_documentation/2010_acs_briefs/

Overview

Roxbury stands at the geographical center of the City of Boston. It generally spans from Melnea Cass Boulevard to the south and Hammond St to the east. The once burgeoning farming community currently stands at the center of "Black Boston" as a hub for the African-American community. Only a stone's throw away from downtown Boston, it is an area replete with new businesses and ventures that are adding to the social and economic capital of the neighborhood.

Current Context

As of 2010, the neighborhood of 59,790 (BRA, 2010) is still predominantly African-American like it has been since the 1960s when notable resident and political activist Malcolm X lived there as a teenager. In recent years, a growing Latino population comprised mostly of Puerto Ricans and Dominicans, have come to Roxbury. According to 2010 Census data, Roxbury stands at about 60.9% Black/African-American, 29.8% Hispanic or Latino, and 14.1% White in terms of its current population. The majority of the Hispanic population is Puerto Rican. What Roxbury brings forth in terms of the arts and culture can sometimes be overridden by challenges to its residents. The estimated median household income in 2010 stood at $35,557 as compared to Boston overall at $55,979 and the state of Massachusetts at $64,496. A substantial number of Roxbury residents are foreign-born residents. Additionally, many of the housing units in the neighborhood are rented (76.8%), not owned.

Roxbury hosts several anchor institutions - institutions that have been and will continue to be in the area through challenging and even dire economic times. Traditionally, anchor institutions usually take on the form of "meds and eds" meaning medical institutions, such as hospitals and educational institutions, such as colleges and universities. In Roxbury, Northeastern University and Roxbury Community College serve as two major anchor institutions by this definition. Other institutions in the nearby Fenway neighborhood include the Wentworth Institute of Technology, the Massachusetts College of Art, the Berkelee College of Music, the New England Conservatory, and the Harvard Medical School. In addition, please refer to Appendix D to find a list of local restaurants, food stores, and community organizations in Roxbury.

Political Climate

The current political climate showcases the organized and forward-thinking nature of the Roxbury community. The neighborhood liaison for the mayor's office is Mr. Keith Williams and the City Council for Roxbury (District 7) is Tito Jackson. In thinking about the creation of a food production and/or organics repurposing center, it is important to note that trash pick-up days are Monday and Thursday with recycling being done exclusively on Mondays. Voting in the community takes place at the Orchard Gardens Community Center.

Planning and Development Climate

Most recently, Mayor Menino has kicked off the Fairmont Indigo Line Planning Initiative, jumpstarting a defective and under-utilized commuter rail line that runs to Uphams Corner in Dorchester. In that vein, the Boston Redevelopment Authority is looking to stimulate growth along the Fairmont Indigo Line and a request has gone out by the local government for a consultant team to engage in this effort.

With housing being such a contentious issue amidst the foreclosure crisis, a local Roxbury nonprofit has received $20 million dollars to aid in foreclosure prevention. The "Foreclosure Prevention Counseling Program" at Urban Edge received money from Citi Community Development. Many community residents are probably hoping that money from this program can be used to save the historic Charles St. AME Church from foreclosure, as One United Bank has taken steps to collect alleged payment from the church.

Most likely at the top of lots of community residents is the initiative to renovate the Ferdinand building as the new Boston Public Schools headquarters. The Dudley Municipal Building groundbreaking ceremony took place on March 2, 2012, signifying city's intent to move forward on an initiative that has been termed as a plot to gentrify Dudley Square by some.

Dudley Square Neighborhood

Neighborhoods in Boston can be difficult to define. Depending on who you ask, there are different perceptions as to what constitutes a neighborhood. As a general rule of thumb, the U.S. Postal Service zip codes serve as a guide to approximate neighborhood locations. Roxbury is generally understood to comprise the following zip codes: 02118, 02119, and 02120. The median household income for the study area ranged from $11,301 to $58,835, compared to a state median of $64,496, as estimated for 2005-2009 by the Census' American Community Survey. Almost half of the 3,000 families who live in the Dudley Square neighborhood are single-parent households with children. Of these single-parent households, most of the parents are women – this is drastically higher than the rest of Suffolk County, which is comprised of about 20% single, female-headed households with children.

Chapter 9:
Organics Repurposing…On the Horizon

This Chapter investigates the idea of an organics repurposing center in the Roxbury neighborhood of Boston, as a way to develop the local solidarity economy and strengthen the local food system. As we discussed in the section "Food Systems," a more localized food economy means good jobs, and more long-term health for the community. In presenting this information we hope to provide readers the foundation of an idea worth further investigation and help inspire other business ventures best suited to the neighborhood.

The neighborhood of Roxbury has a strong and growing local food culture, as well as a diverse set of resources at hand. The neighborhood is home to Tropical Foods, a locally owned grocery store serving most of the community with plans to expand in the coming years (Lagunas, Cris, personal communication, March 20, 2012).

Organizations like The Food Project are housed in the neighborhood and are taking steps towards bringing Roxbury to the forefront of urban food production and youth training in agriculture and gardening. There are "local mom and pop" restaurants like The Pepper Pot, Ugi's Subs and the Haley House, the latter committed to local purchasing and youth job training. Finally, Roxbury's neighbor, Dorchester, is on the path towards a new cooperatively owned grocery store. The vibrancy of the food culture and community food access in the region is growing.

Organic Waste - 'Waste' comprised of natural materials: food scraps and plant debris

Organics Repurposing – Separating out organic materials (food scraps and plant debris) from the waste stream and processing them separately. This process produces products usable by farmers and gardeners such as compost or fertilizer.

When looking at ways for Roxbury to "close the food loop" and combat the potential presence of a Walmart grocery, proposing another food market to compete with the locally owned resources seemed somewhat counterproductive. There are always ways in which Roxbury can expand the infrastructure around local, affordable and healthy food access from the food purchasing perspective - and this is already happening in several ways throughout the community. Therefore, to begin thinking about strong job and food access opportunities in Roxbury, the Field Projects team first looked at the current status of greater Boston's food system including production, consumption and waste.

Looking at the region, it is very clear that there is a large "gap" in the food system related to the 'waste' stream. In addition, the current political landscape around organic food 'waste' in Massachusetts is shifting. Therefore, we feel that by thinking about an organics repurposing facility in Roxbury, we can also think about job creation, innovation and sustainability. Because local food production is a growing interest, envisioning ideas in relation to "closing" the food loop is pertinent in fostering innovation and economic development within the region. Just as in the Chapter 6 "Food Co-op In Winter Hill," this chapter will tease out what an organics repurposing facility could look like in Roxbury, in relation to food access, job access, and the solidarity economy. Ultimately, it will be up to residents to come together to decide what will work best for them.

Furthermore, the ideas we investigated and will present here are innovative and somewhat unprecedented in the United States. The best way to analyze the potential of organics repurposing was to find relevant case studies, and extrapolate the information to the current situation in the Boston community. Limitations in this method include the questions around the applicability of case study data to the Boston context, as well as sometimes disparate information found within the research. Nevertheless, because the topic is at the forefront of statewide concerns and legislative action, and because the ideas show promise with regards to the goals outlined in the Roxbury Strategic Master Plan, the concepts are worth further investigation and understanding. A full blown feasibility study will be necessary to finally determine whether the ideas presented here will be viable options for Boston.

What is happening in the region?

Boston generates hundreds of thousands of tons of organic "waste" each year (Boston Recycling Coalition, 1). As it stands, this resource is moved through the current linear structure and is shipped all over Massachusetts and even out of state either to landfills or burning facilities (ACE, 2011). Both of these methods of disposal contribute greenhouse gases and particulate matter into the atmosphere, and chemical pollutants into the terrestrial ecosystem. Furthermore, they take not only jobs, but valuable resources out of the community. Figure X represents Boston's current waste stream. Figure 9 represents the flow of Boston's solid wastes from municipal collection, transfer in Lynn and Roxbury, and to various incinerators and landfills from there.

If we can imagine moving away from this linear model and towards nature's cyclical approach to the food system, this notion of 'waste' becomes a negligible concept. In a system, all resources are cycled. What is termed 'waste' is actually a key resource in a system - in this case organic food and yard scraps are actually critical components that must be fed back into the food cycle, if it is to be sustained.
Moving past the imagination, legislators in Massachusetts are thinking similarly regarding 'waste.' In 2010 Massachusetts put forth a draft of the 2010-2020 Massachusetts Solid Waste Master Plan (SWMP). The Plan was a response to the Global Warming Solutions Act (GWSA) signed in to law in August 2008, by Governor Deval Patrick.

The GWSA,

> …requires Massachusetts to reduce greenhouse emissions at least 80 percent below 1990 levels by 2050. The GWSA also set an interim goal for the Commonwealth to reduce greenhouse gas (GHG) emissions by between 10 and 25 percent from 1990 levels by 2020, and to develop plans and programs to accomplish those reductions. The direct emissions from solid waste management activities in Massachusetts (which are limited to emissions from in-state landfills and municipal waste combustors) only represent about 4% of total Massachusetts 1990 baseline GHG emissions. However, when viewed from the perspective of emissions generated over the full lifecycle of the materials that are being disposed, overall production, use, transportation and disposal of products and packaging are estimated to account for an estimated 42% of total GHG emissions on a national basis (MassDEP, 2010, 3).

Therefore:

> …it is increasingly understood that solid waste management is an important contributor to greenhouse gas (GHG) emissions…which means that solid waste management is an important aspect of our GHG mitigation planning for 2020… The draft 2010 Solid Waste Master Plan puts the Commonwealth on the pathway to a zero waste future
> (MassDEP, 2010, iii).

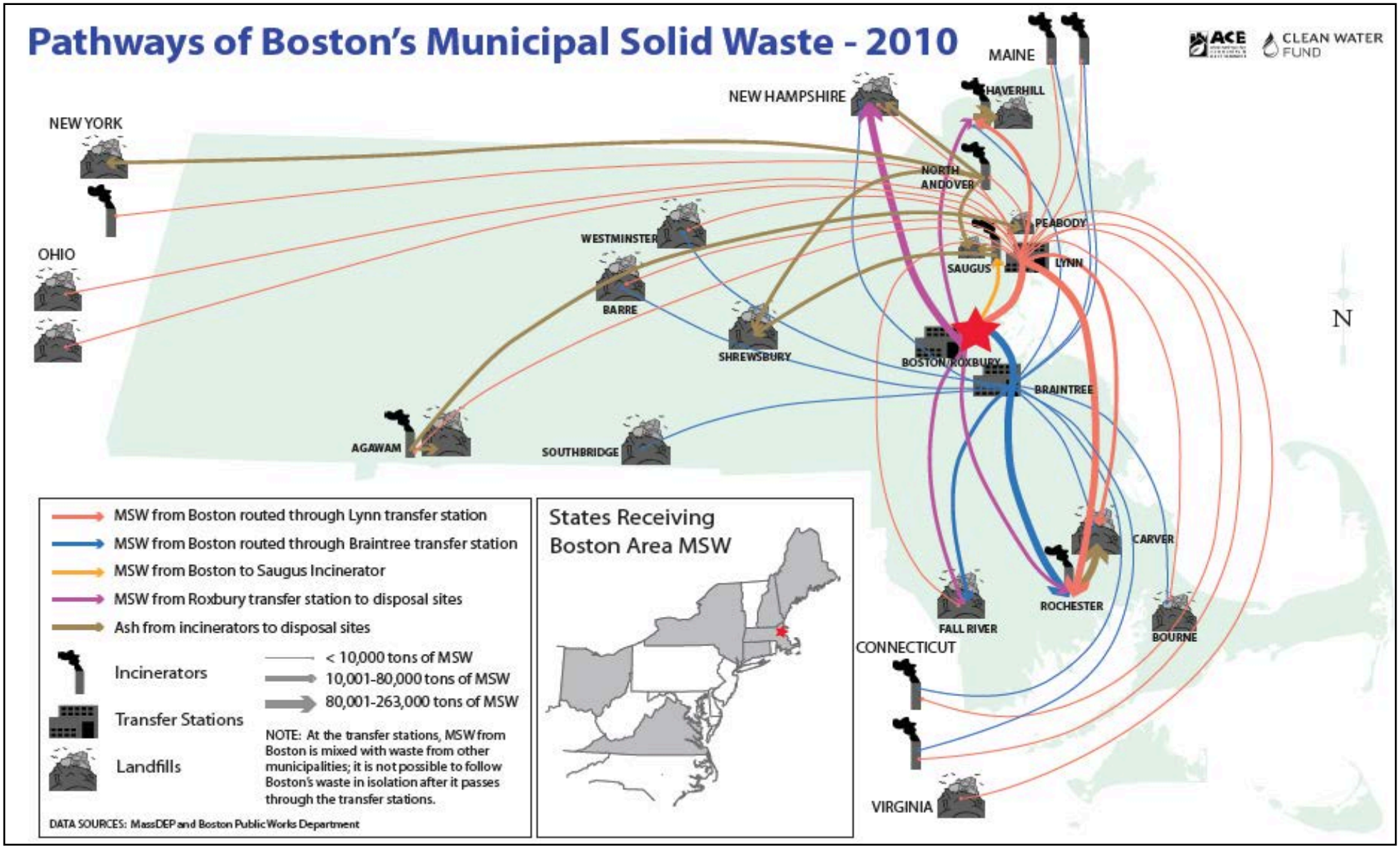

Figure 9: Pathways of Boston's Municipal Solid Waste - 2011 (ACE; Clean Water Fund. (2011). Pathways of Boston's Municipal Solid Waste-2010. Internal Document.)

Figure 9: Pathways of Boston's Municipal Solid Waste - 2011

As we follow the colored waste arrows leave Boston through Roxbury and Lynn on their way to regional landfills and incinerators, we are also following a large source of potential revenue. A food systems lens helps us shift our societal values while also shifting our economic values - turning an undesirable output ("waste") into a highly useful, productive, and sustainable energy resource. Organics repurposing not only generates fertilizer and energy, but also removes a significant portion of municipal waste from trucks, landfills, and incinerators, decreasing our carbon, energy, and landfill footprints.

Of note, the creation of an organic waste management system in Boston can do even more than mitigate climate change. It represents an entirely new economic market in which green jobs can be created for the Boston community.

According to the plan:

> …We have an opportunity to create new markets, new jobs and new economic development projects from discarded materials. We can do more to divert material from disposal and direct material toward an active and productive second-life in our economy. In doing so, we will reduce greenhouse gas emissions, conserve natural resources, and save energy, while at the same time spurring the expansion of businesses and jobs and reduce disposal costs for waste generators and municipalities…The pathway to zero waste requires a shift in thinking away from treating waste as waste and toward a more comprehensive and integrated approach that manages materials throughout their lifecycles and provides appropriate incentives for each of the parties involved in the production, management, and disposal of solid waste to take their share of responsibility.
> (MassDEP, 2010, iv)

According to the solid waste master plan, organic waste is "everybody's business."

> Managing it involves residents and businesses that generate waste, businesses that operate recycling, composting and solid waste facilities and cities and towns that run recycling, composting, and solid waste programs. Municipalities play an important role in determining how solid waste will be managed within their boundaries. Private businesses play a primary role in constructing and operating recycling and composting facilities, transfer stations, and disposal facilities and determine where waste is sent to be managed. Figure 4 provides a diagram of how solid waste is managed in the Commonwealth (MassDEP, 2010, 11).

Solid Waste Master Plan Focus

- Dramatically increase recycling and re-use and provide assistance to cities and towns;
- Maintain moratorium on additional municipal solid waste combustion. Begin to develop new performance standards for existing waste-to-energy facilities that require higher recycling rates in waste collection areas, lower emissions of greenhouse gases and other pollutants, and higher efficiency in energy recapture;
- Seize green economic opportunities to build markets, jobs and firms in recycling, re-use, and related waste management efforts;
- Increase producer responsibility to reduce waste that needs to be recycled or disposed of by municipalities and eliminate products containing toxic chemicals from disposal; and
- Develop integrated solid waste management systems that minimize the amount of material that must ultimately be disposed of.

Draft Massachusetts 2010-2020 Solid Waste Master Plan. 2010. Massachusetts Department of Environmental Protection, Executive Office of Energy and Environmental Affairs. p. iii.

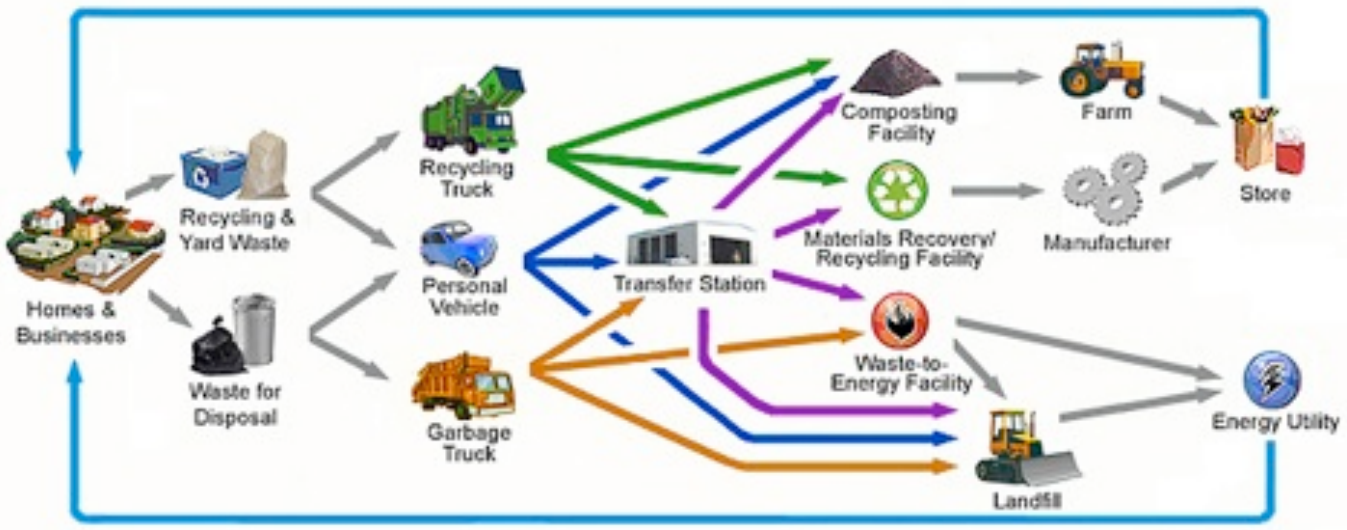

Figure 10: Solid Waste Management System Material Flows.
DRAFT: Massassachusetts 2010-2020 Solid Waste Master Plan. July 1, 2010 - Pathway to Zero Waste. Massachusetts Department of Environmental Protection, Executive Office of Energy and Environmental Affairs. p.11

	TPY	Number of Locations	TPY/ Location
Restaurants	212,660	9,453	23
Manufacturers	177,120	270	656
Supermarkets	62,724	1,257	50
Wholesalers	52,773	359	147
Schools	32,014	1,650	19
Correctional facilities	19,104	201	95
Hospitals	10,883	80	136
Nursing homes	6,193	167	32

Table 4 - Breakdown of sectors showing how much organic waste is generated by each, in terms of tons per year (TPY) (Tufts Field Projects Team)

Table 2: Commercial Contributors of Organic Waste in the Greater Boston Area. Carver, et al., 2009. "Wind and Waste - Diversifying Boston's Renewable Energies." Tufts University, Field Project.

On average across the US, almost 25% of municipal solid waste is comprised of food scraps and yard trimmings. In Massachusetts this means almost 1.6 million tons of organic materials each year (MassDEP, 35).

In 1999, The Center for Ecological Technology (CET) estimated that approximately 280,000-620,000 tons of food waste are generated from all sources each year in the greater Boston area (CET, 1999, i). In 2005 the Boston Neighborhood Recycling Coalition's "Boston Recycling Report" stated that Boston produced 572 million tons of trash each year, implying around 150 thousand tons of organic resources. (Boston Neighbor, 2000). More recently, in 2009 a team of graduate students from Tufts University estimated that 573,471 tons of commercial organic wastes are generated in greater Boston annually (Carver et al., 2009, 77).

Though the estimates span quite a range, each of them nonetheless translates to huge potential for the production of compost, fertilizer and energy from the processing of these materials. Creating the infrastructure for this work will contribute to both climate change mitigation and job creation. However, it is not without concern. It is important to note that, according to the Massachusetts Department of Environmental Protection, "Food waste diversion is currently limited in large part by the capacity of processing facilities and available end markets" (MassDEP, 2010, 35). This is not a small matter to be overlooked.

The Master Plan explains that:

> …a critical component of Massachusetts's strategy to increase food waste diversion is to remove barriers to development of increased capacity for processing source separated materials while ensuring that such facilities receive proper oversight. MassDEP estimates that reaching our goals for food waste diversion will require additional organics processing capacity sufficient to handle 250,000–300,000 tons per year of source separated organic materials (MassDEP, 2010, 36).

The Master Plan sets forth the objective of a 35% food waste diversion from disposal by 2020, particularly from businesses and institutional sectors like hotels and food processors. They further express their commitment to supporting the infrastructural development necessary to meet this goal. (MassDEP, 2010, 35) Even more pertinent is their final action item, which calls for immediate action:

Waste Ban on Commercial/Institutional Food Waste:

Establish a waste ban on commercial and institutional food waste by 2014 (once sufficient infrastructure is established)

(MassDEP, 2010, 36).

This legislative action will alleviate one of the key doubts inhibiting the development of organic resource processing currently - concerns around the steadiness of the resource stream. With this ban in place, a business can be assured of a steady flow of resources - as much as 575,471 tons per year in Boston - by law. This ban further indicates that recycling organic materials will not be an at-will endeavor - it will be a mandated statewide effort that makes the creation of new infrastructure - new jobs - inevitable.

Massachusetts Department of Environmental Protection has held a series of meetings, and has been accepting public comment on the upcoming waste ban and the action plan they have been developing for next steps in this statewide effort. The final Plan should be presented at the next MassDEP Organics Subcommittee meeting on April 26th.

What's Happening in Boston?

The Solid Waste Master Plan also voices concerns regarding air pollution, water pollution and nuisance for communities in which facilities to handle organic resources are located. The attention that these concerns warrant cannot be underemphasized if organics repurposing is to become something positive for the neighborhoods most directly affected. Many communities across the greater Boston area have encountered deeply rooted problems with current waste management structures. Issues have ranged from poor worker conditions to bad neighborhood infrastructure to pollution infractions. Several organizations around Boston see the 2014 Ban as an opportunity to proactively set a positive recycling/reuse program that can contribute to healthier jobs and food throughout the city (Boston Recycling Coalition Fact-sheet).

Two organizations in particular, the Boston Recycling Coalition and Massachusetts Community Occupational Safety and Health (MassCOSH), have seen this future organic waste ban as an opportunity not only to benefit the environment, but to also raise job standards in the waste management industry in Boston. Cocella, the largest waste management company in the Greater Boston area, has historically provided unhealthy jobs in the form of low pay and dangerous conditions for their workers. Cocella can get away with providing such unhealthy jobs because it is exempt from Boston's Living Wage Ordinance by which most companies in the city have to abide (Pepali, Alex, personal communication, March 21, 2012).

The Boston Recycling Coalition aims to address unjust labor standards by helping to expand a strong recycling industry. BRC aims to achieve this by bringing together local and national environmental, labor and community organizations. Their central values are respect for the environment, industry workers and the needs of Boston's communities. Similarly, MassCOSH is an Eastern Massachusetts-based organization that brings together workers and allied organizations to collaborate and advocate for healthy jobs and healthy communities.
Boston's history suggests that there will be challenges in the way of improving recycling and creating an organics repurposing center in the city, particularly when it comes to labor and environmental justice. Thus, creating a different kind of company – one built for and by the community - will be at the heart of a successful organic waste management system.

The Dudley Street Neighborhood Initiative and New Ecology Inc. undertook an extensive research and recommendations project to investigate potential solutions to problems created by Boston's waste man-

CASE STUDY: DSNI and BEST

For over 15 years, the Dudley Street neighborhood has been home to a variety of solid waste related operations, legal and illegal. While the legal operations provide jobs and the important service of managing a large amount of the city's solid waste disposal, neighboring residents and businesses have been faced with the negative impacts of solid waste operations, in their front and back yards. Due to neighborhood organizing through Dudley Street Neighborhood Initiative (DSNI) and Alternatives for Community and Environment (ACE), some illegal operations have been closed down, while others have begun to be upgraded to meet City and State regulations and codes.

The City, under leadership from Mayor Menino, established "BEST," the Boston Environmental Strike Team, which is made up of multiple government agencies focused on preventing and enforcing environmental violations in the city. BEST represents the City's effort to forge partnerships between City and State Agencies and community based organizations to work together to improve environmental conditions in the City. BEST has proven itself successful in many cases, but despite neighborhood and City efforts, the problems from the solid waste operations persist and create unpleasant living and working conditions for the neighbors. The Solid Waste Task Force (SWTF) is building on the Mayor's support for the partnership model to make additional progress on minimizing adverse impacts of these legal facilities and eliminating the illegal activities or bringing them up to code." (DSNI, 2001, 1)

agement facilities. After performing an existing conditions assessment and researching best practices, they came up with the following recommendations for best practices implementation:

1. Establish and maintain positive relationships and coordinate activities with communities neighboring the facility;
2. Implement a carefully researched design strategy based on current and future waste capacity needs;
3. Establish and maintain common sense operating procedures, such as general "good housekeeping" and moving materials quickly through the station, i.e. minimize storage of waste on site for extended period;
4. Rigorous monitoring and maintenance of facility systems to ensure they are functioning correctly.

(Solid Waste Task Force Strategic Plan, Dudley Street Neighborhood Initiative, Boston, MA 5-18-2001. p4)

What is organics repurposing? What does the process look like?

As mentioned, organic repurposing is the process of separating organic resources (food scraps, lawn clippings, plant debris, etc.) out of the waste stream and processing it separately so it can be broken down and cycled back into the food system. It exists in cities all over the country but is a system currently lacking in Boston. Organics repurposing means that citizens and commercial businesses will have not only a black bin for garbage and a blue bin for recycling, but also a green bin for organic garbage. In many cities the organic resource is then taken to a large facility in a neighboring rural area, and processed into compost. Organic debris is thus kept out of the landfill and is prepared for re-use. This process promotes both environmental sustainability (in that it cleans up our landfills and recycles our waste) and financial sustainability (in that it creates jobs, lessens the cost of waste disposal for commercial entities, thereby providing a constant and renewable source of usable material – a sellable product).

UK's largest Anaerobic Digestion Facility, located in Staffordshire, England. Developed by private company Biffa.
Image:
http://www.biomassenergy.gr/en/articles/news/c100-biogas/229-uk-039-s-largest-anaerobic-digestion-food-waste-facility-opened

Municipal Waste Water Anaerobic Digesters at Deer Island in Boston Harbor.
Image:
http://www.mwra.com/harbor/html/bhrecov.htm

Commercial-scale composting usually involves lots of space (tens of acres), time, and large piles of organic materials that are turned using tractors and monitored carefully to prevent odor, dust and animal activity. The process of turning organic resources into usable product can take more than 13 weeks in aerobic composting. The compost is then made available for purchase by local farms, vineyards and gardeners (J. Caruso, Personal Communication, April 12, 2012). There is another process called anaerobic digestion that entails a slightly different process than composting, and has potential for urban job creation and closing the loop in a local food system in a clean and environmentally sustainable way.

Anaerobic digestion is a popular process in both Europe and many developing countries, is taking off in Canada, and is just catching on in the United States. Unlike composting (an aerobic process - one with oxygen) anaerobic digestion takes place in a completely enclosed vessel without the presence of oxygen. In this system organic materials

go through a multi-stage process to turn them from 'waste' to useable agricultural inputs. Put very simply curbside organic material is picked up by drivers and brought to the anaerobic digestion facility. Facility operators then perform a series of homogenization and purification steps, ultimately putting the waste into the digester. Depending primarily on the composition of the material, the process of digestion usually takes between two and three weeks (Harvest, 2011, Anaerobic Digestion). Finally, the digested material is usually dehydrated and the water is cycled back through the system to be used with the next round of material inputs.

At the end of this process the organic resources that went into the digester have been repurposed into two new, usable outputs. The first is energy. In aerobic composting, the gases released from the process escape into the atmosphere, in the form of harmful greenhouse gases (primarily methane). In anaerobic digestion on the other hand, methane is captured in a vessel and burned to produce electricity. This electricity can be used both to power the facility itself, and once the infrastructure is in place, the remaining methane can be sold back into the grid to provide energy for the community. According to Harvest Power, a renewable energy company in Massachusetts, "anaerobic digestion can generate 200 kilowatt hours of electricity per tonne of organic materials" (Harvest, 2011, Capabilities).

The second output of anaerobic digestion is fertilizer. The organization Sustainable Sanitation and Water Management explains, "nutrients remain in the sludge, which can be composted and used as soil amendment in agriculture. Liquid effluents are either treated and rejected, or reused in fertigation" (Spulher, 2012). Fertigation is the process in which the liquid output is used as a liquid fertilizer for irrigation (Spulher, 2012). Conversely, the material can go through a dehydrating process. The dry material that results is an excellent soil amendment for farmers and gardeners. Usually, this material is either-dehydrated into pellets or goes through a further 3-4 week composting process (CDM Smith, 2012, 1-3).

Organic materials are made up of all the things that plants need to grow - mineral nutrients like nitrogen and phosphorus. Anaerobic digestion uses special microbes that thrive without oxygen to change what were once apple cores, grass clippings and eggshells back into forms of nitrogen and microscopic critters called microbesphosphorus that plants need to grow. At the same time the microbes release methane gas that can be captured and used for energy. This same thing happens in nature all the time - things crumble away, decompose and turn back into soil. Anaerobic digestion just speeds up the process!

Figure 1-1 - Schematic Flow Chart of Anaerobic Digestion Facility with Electrical Generation

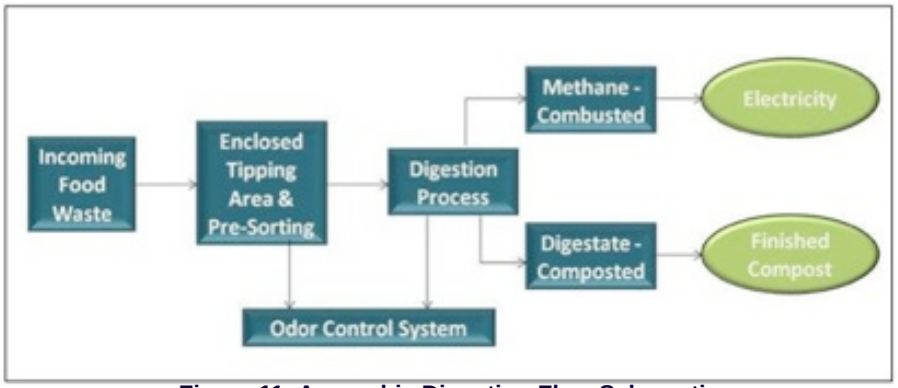

Figure 11: Anaerobic Digestion Flow Schematic
Final Report - Fatal Flaw Analysis of an Anaerobic Digester Facility at Hamilton Landfill Site. Town of Hamilton, Massachusetts. April 2012. CDM Smith. p.1-3

Large-Scale Wet Digestion of Municipal Organic Waste
Digester and gas storage at the Rayong Municipality Cogeneration plant, Thailand.
Source: (Mueller, 2007)

"In Thailand, the development of alternative energy sources is critical, as the government has set 2011 as the target date for 8% of the nation's total energy reduction (Mueller, 2007). This has given large rise to various large-scale biogas projects. The Rayong Municipality has constructed a wet fed-batch high-solids plant for the treatment of the organic fraction of the municipal solid waste. The plant is comprised of two systems; a process that converts waste to biogas and fertiliser, and a biogas-fired cogeneration process (CHP). Additional to the organic solid waste from the municipality, the Rayong plant uses food, vegetables and fruit wastes and night soil as waste materials. The plant has a capacity to handle 60 tons of waste per day turning out into an output of 5800 tons organic fertiliser and electricity of about 5 million kWh.

(Mueller, 2007)

Susatainable Santitation and Water Management. "Anaerobic Digestion (Organic Waste)
http://www.sswm.info/category/implementation-tools/wastewater-treatment/hardware/solid-waste/anaerobic-digestion-organic-

Would it be smelly or dangerous? Would it impose on the community?

Molly Bales of Harvest Power, a Waltham-based clean-tech startup working with anaerobic digesters explains the basic ins and outs of anaerobic digestion. She says, "We are basically creating a facility where bacteria happily feeds on waste and produces lots of useful bio-products. This closes that carbon cycle loop instead of throwing something away." She goes on to explain that "Worries about a bad odor is one of the biggest concerns people have around organic waste management. This is a logical train of thought: if you keep food waste in a trash can, it starts to smell after a while. In reality, the beauty of an anaerobic facility is that the process is completely controlled, because we want to harness the gas" (Keene, 2012).

In other words, because the system is anaerobic, there is no oxygen involved – that means the system is enclosed so smelly gases do not escape. Instead, the gases emitted by the organic materials (as they are digested by microbes and collected through an internal system), provide a renewable source of energy that can run the whole process. When these organic materials are left in the regular waste cycle and dumped into landfills, they release large amounts of Methane gas into the atmosphere – Methane gas has been discovered to be far worse with regards to climate change than carbon dioxide. This means that anaerobic digestion is a productive way to lower the carbon footprint of waste management.

"Decomposition of organic waste like food scraps (or animal manure) produces methane and CO2, which is then simply released into the atmosphere. Landfill is a major source of human-related methane in the United States, accounting for more than 20 percent of all methane emissions. A molecule of methane has approximately 21 times the warming potential of a molecule of CO2, so by capturing and burning the methane, you reduce your effective contribution to Global Warming twenty fold!"

http://groundtoground.org/2011/07/17/anaerobic-digestion-an-alternative-to-composting/

How is it connected to the community food system, and the community of Roxbury in general? Does it fit into the Roxbury Master Plan?

Without knowing much about food and agriculture, it is easy to forget that food is not just something that you pick up at the market. Food is something that is grown by someone; it is something that happens both in the earth and a piece of the earth. Every single thing that is pulled from the ground takes something from it – minerals, nutrients, water, and soil health. In order for this system to sustain itself, it means that for everything that is taken from the earth, something must be added back. This is why simply throwing away the organic resources we produce in our communities is a needlessly wasteful act. Each bit of organic matter can be put back into the earth, to continue the generation of food for the future. In that way, our waste is as much a part of our food system as each other component. In fact, it is one of the most important parts. Creating the infrastructure and facilities to process organic waste into either organic fertilizer or compost, is a cornerstone of a sustainable food system. It will not only produce jobs, but it will secure the future of food.

The neighborhood of Roxbury is on the cutting edge of sustainable urban food systems. Organizations like The Food Project, the Dudley Street Neighborhood Initiative and Alternatives for Community and Environment are engaging the community with urban food system innovations every day. From the commercial greenhouse both producing food for sale and providing a venue for hands-on learning and job training, to ACE's Grow or Die campaign, to new projects funding raised bed gardening for residents at DSNI, local food production is hitting its stride. Urban waste management and the benefits of cost-effective fertilizer for community residents and agricultural ventures could help close the loop in urban food production. Without healthy ground, healthy food cannot be grown. Creating organic fertilizer right in the community, in an environmentally sound and socially just manner could provide access to crucial inputs for agricultural and backyard gardening innovation.

Because the creation of an organic waste system in Boston is a brand new job market, and because the nuts and bolts of the structure are not in place yet, any community – and perhaps several - in Boston can poise itself to take advantage of this situation. One pertinent question is whether or not a business such as an anaerobic digestion facility for processing organic food and yard waste fits the goals of the community. Undesirable job creation hardly fosters community economic development. There are several aspects of the Roxbury Strategic Master Plan (RSMP) that indicate the community might be interested in inves-

tigating this opportunity.

The overall goals described in the RSMP state that the community advocates for the following:

Emerging Industries: Encourage emerging industries to locate in Roxbury and utilize the human capital of Roxbury residents while establishing relationships with existing businesses in the community that build on Roxbury's strategic locational and institutional advantages.

Support local commercial centers: Coordinate with existing community development organizations and residents in the area on the development of new businesses as well as the growth and expansion of existing businesses.

Sustainable Development The Roxbury community places a high priority on the realization of sustainable development and economic opportunities that can weather future economic cycles (RSMP, 2004, 31).

Capitalizing on Massachusetts requirements for implementing a new organic waste management industry speaks to the communities desire to make Roxbury the hub for innovation. Such a business, as envisioned, could be locally owned in a cooperative structure. This indicates not just job creation, but the generation of wealth that stays better rooted in the community through spending by the workers as well as the decisions made regarding the investment of surplus the business generates (Loh, Penn, Personal Communication, April 9, 2012). An organic waste management business could build on relationships with the current waste management companies functioning in Boston. Because there are current waste transfer facilities located in the Newmarket area of the city, establishing these relationships and exploring the potential for collaborative waste collection contracting could be one strategy.

The relationship between the facility and the community could be further developed through direct partnerships between the company products (specifically, the fertilizer produced) and both residents and community organizations. The provision of organic fertilizer for urban gardeners, school gardens, community gardens, commercial urban farms, and other farming entities is something that could be built in to the business plan of the company itself, thus making it an anchor institution in the community.

Because organic waste is a never-ending raw material, the longevity of such a business is inherent. Also, because such a business could gain revenue through several avenues – direct contracts with the city, sales of fertilizer, and sales of generated energy – its stability is ensured as well. It is in these ways (stability, longevity, good jobs, sustainability, local food systems development) that the values of the Solidarity Economy (Chapter 4), can be directly and explicitly fostered.
In the RSMP, the community also shows interest in the economic impacts of development in the center text box.

These goals speak directly to the community's interest in creating economic development in the context of being situated in the heart of the greater Boston area. By locating public facilities that can serve this larger community in Roxbury, the neighborhood becomes inextricably linked to the greater community.

In the end, whether taking hold of this economic opportunity is a good choice for Roxbury is ultimately up to the community itself. By building such a business from within, the community can be assured of good, healthy jobs and extensive decision-making power. Whether the desire exists for such an endeavor will create the potential for its success.

What kind of jobs will be created? How many, what kind and what salaries?

As previously mentioned, Boston currently has no streamlined organic waste management system, and incorporating municipal anaerobic digestion is an innovative concept in the United States. We therefore do not have many examples to look to, in determining the job creation supported by a new organics repurposing program. Because this is truly a new job market of which a community ahead of the curve can take advantage of, seemingly there is great potential. Furthermore, because the infrastructure around such a system could potentially be somewhat extensive, the diversity of jobs and the levels of experience, education and skill are expansive. In short, this could mean job creation across all socio-economic classes of the community. Some examples of potential jobs for the organics repurposing facility are manufacturing, construction, trucking, mechanics, human resources, management, processing, sales, marketing and more.

Location of Public Facilities:
The community has also emphasized the importance of public facilities as an important catalyst to economic development. Public facilities must be located in areas that can catalyze job training and economic development opportunities.

Connections to Jobs And Economic Opportunities:
The economic health of the Roxbury community and the region are inextricably linked. While the Crosstown Corridor has a number of developable sites that have the potential to attract job-generating uses, developing the Crosstown Corridor alone will not be sufficient to provide all of the community's needs… Plans for the future of the neighborhood must also relate to metropolitan and regional employment opportunities

(RSMP, 2004, 38).

The number of jobs within the company depends largely on how big and how many facilities there are and whether the company contracts with current trucking companies and other facets of the infrastructure, or vertically integrates different aspects of the work. Separating out organic resources from the traditional waste stream may affect scheduling of waste pickup (trash may be picked up once every two weeks, where organic resources may be picked up every week). This has the potential to mean a shifting and restructuring of jobs, rather than extensive new job creation - in this scenario, if organics repurposing is woven into the companies already doing waste management and recycling, job creation could mean an overall growth of just 10% within-company (Henderson, 2012). On the other hand, this could look very different were a new company to be developed. Therefore, there are several factors at work determining how the job market may shift and grow.

In general, at the anaerobic digester plants themselves, there is not a high volume of job creation - depending on the size of the facility, around 35 jobs may be contained on-site (R. Danesh, Personal Communication, April 16, 2012). However, there may be significant job creation in construction,

pickup/delivery, and transfer (Zeppieri, Irene, Personal Communication, April 16, 2012). What's more, various components of such a company may necessarily contract out to other cooperatives to do specialized work (for instance, collaborating with the Freedom Machines Cooperative in the building of the digesters themselves), thereby feeding into networked cooperative job creation. In other words, it is pertinent to look at not just site-based job creation, but also to consider the ripple effects of systematic job creation building a cooperative could foster. Not only that, but because the model at hand is one of cooperative, worker-ownership, the nature of those jobs, the security of those jobs, and the benefits of those jobs could be exponentially better than jobs created as a function of "business-as-usual." To that end, the structure of the cooperatively owned business as decided by the community that builds it will have absolute decision-making power.

What could this cooperative business look like?

There are many different cooperative business models to explore. We will walk through one potential scenario through the lens of the Six Economic Factors discussed in chapter 4, described in terms of the Solidarity Economy. Keep in mind that this is just one possible scenario meant to spark engagement amongst residents. Ultimately, communities can use these six economic factors and the Solidarity Economy lens to determine what they value most in a business they create.

While it is essential for the community to ultimately decide on the business structure of an organics repurposing cooperative (ORC), it is also essential to stay ahead of policy trends, develop the foundations for future development, and start creating good jobs as soon as possible. Additionally, starting any small business is an expensive process loaded with hurdles. Therefore, to ensure community control while utilizing expertise and available investment capital, one option to explore is the initial forming and funding of the ORC by community organizations such as ACE or DSNI, as well as relevant community economic and development groups. This could expedite the business formation process, while giving enough time for worker skills and ownership training.

Once this skilled workforce is in place, the community groups could relinquish the majority of control to the workers, while maintaining some voice in decision-making processes as major investors or board members. When this happens depends on the capacity and desires of the workers themselves - likely within the first 2-3 years of financial stability. Since we've seen examples of various cooperative models around the world, let's apply those lessons and see what an ORC might look like according to the 6 economic factors.

1. Ownership: As with all cooperatives, the ORC would be owned by its *shareholders*, its members. The challenge is in defining membership. If this co-op is launched by community groups who may maintain votes in decision-making, this business model can be called a hybrid community- and worker-owned cooperative. Ownership comes from financial investments in the form of buying shares. Shares, whose values are determined after a detailed feasibility study, can be purchased outright by worker-owners at the beginning of employment. This is usually structured by the co-op taking a small percentage of wages over time, or by taking out an initial loan from a Cooperative Development fund that can be paid back through garnishing a small percentage of wages over time.

2. Division of Labor: Cooperatives detail how labor will be divided in their by-laws, which are written by the board of directors elected from within the cooperative's members, and then voted on by all members. Many models for dividing labor exist, including rotating tasks, elect-

ing management, task-sharing, and directly hiring for different positions. However, regardless of position, all employees are on an equal standing regarding ownership. One option that may be suitable for an ORC is division between management and labor. Hiring by position in order to include as much expertise as exists in the community may be logical as well. In this structure, managers are elected by popular vote and are held accountable for their actions through regular elections and cooperative meetings, (discussed in more detail below). Initially, management will likely come from community groups. However, deeply embedded in the cooperative structure are components of ongoing education and training so that worker-owners have mobility, the culture of democracy and self-management are embedded.

3. Remuneration: Compensation for labor is a tricky conversation. How are wages set? What kinds of benefits are offered? What about non-paid services for employees? Again, these decisions are ultimately made by the workers themselves, but we can address some aspects here. Different jobs require different skills, training, time requirements, and risks. An organics collector is far more likely to get injured on the job than an accountant, but that accountant has training and skills that the collector might not. How should these two very different jobs be valued through wages? A common element in many cooperative remuneration structures is a set wage ratio. As described in chapter 4 wage ratios should not exceed 5:1, such that the highest paid worker-owner receives no more than 5 times the wage of the lowest paid worker-owner.

Wages are determined by position with management at the highest point, but management is elected by and accountable to the worker-owners to prevent any potential misuse of funds. What about the initial investment by the worker-owners?

These investments have been pooled into both operational funds and the cooperative development fund, which invests in new cooperative and community enterprises, building assets like a standard bank, but keeping the funds generated within the network. Investments, then, grow inside the fund, which can loan money to workers and act as a retirement account, building individual assets through the initial investment and any additional shares purchased until that worker-owner gives up their position and withdraws from the cooperative as worker and owner.

4. Decision Making: Cooperatives function according to a democratic decision-making criteria: one member, one vote. Again, the question arises around who is considered a member. As we saw earlier, cooperatives around the world engage in a number of decision making structures based on their individual contexts. One proposed context is that of community-ownership transitioning to worker-ownership for each individual coop, which can then work together in a network. Ultimately, the worker-owners will determine their relation to the network, and how the network will be governed, but at this point we can highlight some important decision-making factors for the ORC.

One member, one vote is complicated when a majority of ownership will initially rest with a set of community organizations, not the workers themselves. Therefore, until the cooperative demonstrates financial sustainability and a sizable enough workforce, the community organizations must retain some amount of control.

Until the switch to worker-ownership takes place and the worker-owners have elected a board of directors, the community organizations will act as such, according to general principles to be determined upon incorporation. Once the business is a stable enterprise and ownership has transitioned away from the community groups, worker-owners can

meet in regular General Assemblies to decide on operating details, contracts, management and board of directors' elections, impeachments or alternatives, rules and by-laws, budgets, investments, and any other key component of running a business. These general assemblies are places to air grievances, offer suggestions, and be a space for democratically participating in the operations of their business.

After transitioning to worker-ownership, the community groups can maintain a speaking role within the cooperative to help reflect broader community concerns, but will not have a vote. When you are a worker-owner you essentially work for yourself, but are accountable to your community of owners. This breeds a desire for high quality operations, customer satisfaction, and collective benefits, all of which contribute to the successful growth of the business to a comfortable scale. Most importantly, though, this cooperative model provides a space wherein each worker has direct say in making decisions that will impact them, democratizing power throughout the business.

5. Guiding Values: Cooperatives generally adhere to the ICA Principles of Cooperative Identity: voluntary and open membership, democratic member control, member contribution to capital, autonomy and independence, education of members and public in cooperative principles, cooperation between cooperatives, and concern for community. However, since we believe that cooperative networks have great transformative potential, and can greatly help in rooting wealth in the community, we feel it is worth considering a cooperative model that adheres to the principles of the Solidarity Economy. However, the worker-owners and community must ultimately decide their own guiding values.

6. Sustainability: The hypothetical ORC is inherently rooted in a systems-based approach to ecological sustainability. A truly closed-loop, sustainable ecosystem has no waste, everything generated is incorporated back into the system. In our case, the ORC generates revenue by identifying a useful product in the waste stream - organic material - and finds a viable economic use for it. This effectively removes a significant percentage of our municipal solid waste from landfills and incinerators and instead uses it not only to generate a profit, but also to expand awareness of sustainable practices and concepts.

The anaerobic digestion system is a closed energy loop, generating at least enough energy from the processing of organics into fertilizer to power the facility itself, and can eventually provide power to the community either through the electricity grid or through direct transmission. The ORC reduces the amount of municipal waste going to landfills and reduces the carbon footprint of collection and storage, all while providing a means to enhance soil to grow more food that in turn feeds back into the facility's operations. Moreover, the upcoming statewide ban on commercial organic waste provides a consistent market for the cooperative, enhancing economic sustainability as well.

Within this framework (which is one that defines both the quality of the work place, and the quality of the jobs themselves) the jobs created will be decided in part by the nature of the work itself. Jobs will include positions within the realms of human resources, trucking, management, mechanics, technicians, retail, communications and customer service. The importance of creating healthy jobs and an environment that enables growth and the potential for advancement are vital to the integrity of a sustainable business model. The workers are at the heart of the operation, and their relationship to their work will define the economic success of that business.

Where would a facility be located?

Anaerobic digestion is a cleaner and more aesthetically pleasing means of converting organic resources into usable products than other disposal methods. In addition, in their Solid Waste Management Master Plan the City of Boston has dedicated language towards ensuring stringent guidelines regarding the nature of waste management facilities. Nevertheless, ensuring that there are absolutely no environmental justice infringements is paramount for the success of creating such a business and ensuring that it is truly something that benefits the community, rather than burdens it. For instance, no matter how unobtrusive, a repurposing facility should never be uncomfortably close to residences or commercial centers. It should impose no new burden relating to traffic or noise, and no new visual obstructions damaging the cultural aesthetic of an area.

In talking with community leaders and through explorations of the Roxbury neighborhood, the potential of the Newmarket area to host such a facility is intriguing. Newmarket is home to many potentially underutilized sites. The area is already considered light industrial, and two waste transfer facilities already inhabit the environs. This means that no new area will be subject to new and unnecessary traffic congestion, noise, or aesthetic obstructions. The area is also part of a collaborative project between the Boston Redevelopment Authority (BRA), Meister Consultants Group (MCG), city and state policymakers, and the Environmental Protection Agency (EPA), through their Sustainable Skylines Initiative (SSI). The goal of this project is to "launch the business district as the national model for eco-industrial zone development and identify cost-effective strategies in the following areas of Building Energy Efficiency, District-Scale Waste to Energy, and Advanced Transportation Infrastructure," aiming to "develop Newmarket as a "laboratory" to pilot clean-tech projects and programs..." (BRA, 2011) Knowing there is buy-in from the municipal, state and federal authorities is promising - but these groups will potentially not be looking at building infrastructure from the ground up, for and by the community. It therefore seems necessary to collaborate with and/or get out in front of these interests.

Another point of interest, the potential aesthetics of anaerobic digesters is such that though industrial, they could likely be considered an improvement to the Newmarket landscape. This company will be created for and by the community, using the cylindrical facades for community art projects like others in Roxbury, may be something to improve the aesthetics, engage youth in organics repurposing education and foster a greater sense of ownership in the community.

Finally, Newmarket is at the heart of an area with many large generators of organic waste. "The wholesale produce and meat distribution facilities in Newmarket collectively produce over 27,000 tons of organic waste, which is presently trucked off-site by waste hauling companies, and would provide enough feedstock for a district based anaerobic digester facility." (BRA, N/D) This makes the location suitable for a smaller scale pilot project that could be neighborhood specific, rather than assuming that the infrastructure for all of Boston commercial organic resources to be processed will be up and running within the next two years. Additionally, this may make more sense depending on the size of available lots in Newmarket.

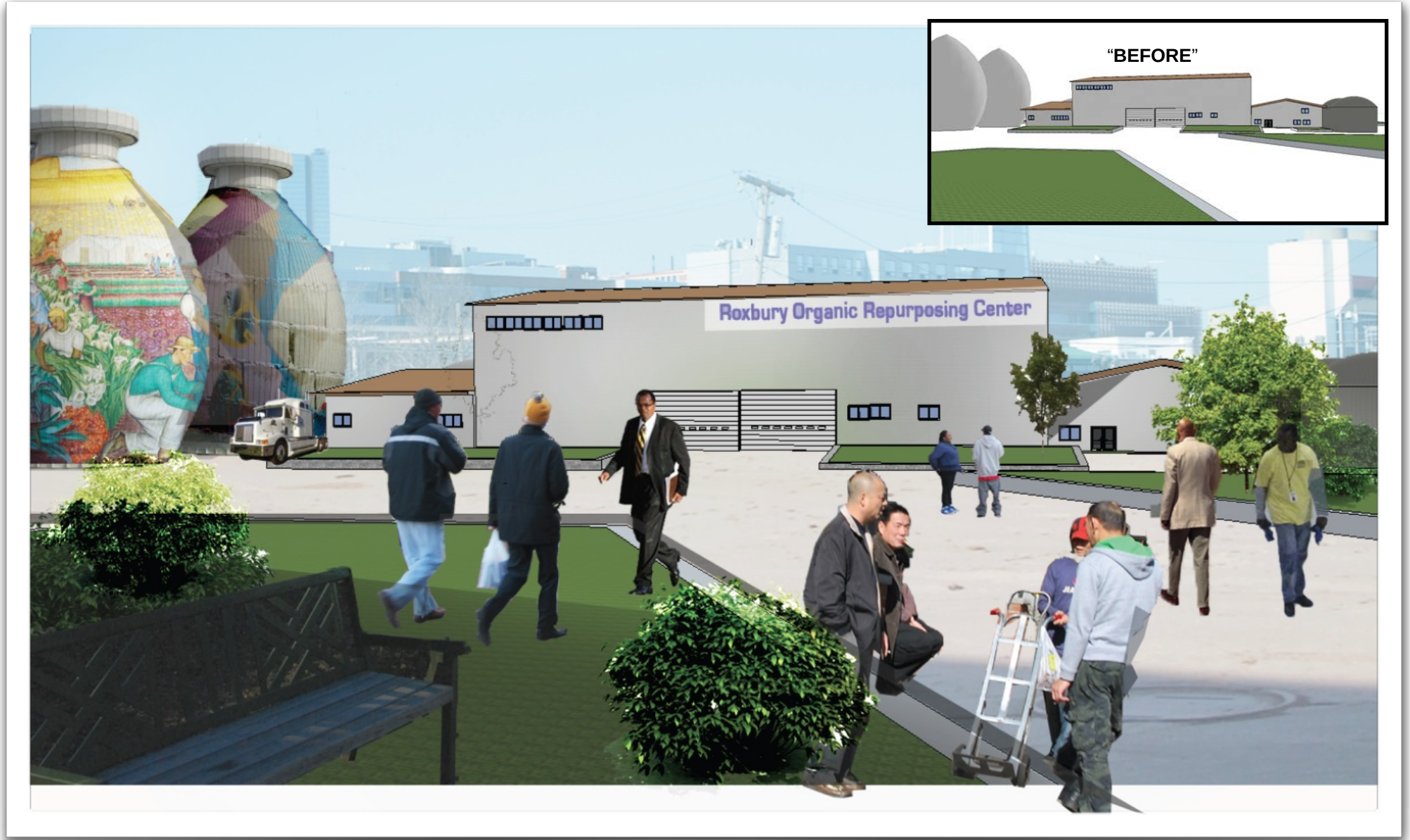

Figure 12: Rendering of Organics Repurposing Center at Newmarket (Submitted by Earthos Design Team)

Figure 12: Rendering of an Organics Repurposing Center at Newmarket

The above rendering represents what an ORC could look like in the Newmarket area. The community art project imposed on the digesters themselves depicts that he facility can not only function as a diverse job creator, but also as a space for community building, education and outreach. The ORC also has potential to beautify the Newmarket area, easing the industrial zone's relationship with its neighbors, the Roxbury community.

Newmarket is by no means the only option for such a facility

Anaerobic digesters require much less space than a traditional composting facility would require. The size of the land required varies depending on how many tons of material will be processed at the site, therefore determining how large the digester itself will be. This would depend on whether the municipality decided it best to streamline the organic waste system through one facility, or through several more localized facilities. Furthermore, locating a facility just outside the city or neighborhood where there might be even more space is something the community may prefer. That way, community members could have access to the site for job convenience, but the facility will not add to the industrial landscape of their neighborhood. Depending on what kind of job creation a future feasibility study indicates, the urban center may or may not be the best suited for such a company.

Currently, Toronto, Ontario is the only municipality in North America with an active anaerobic digestion infrastructure for processing organic resources. Their facility processes between 30 and 40 thousand tons of organic materials each year and is situated on less than 2.4 acres (Danesh, April 16 and Van Opstal). Other sources have also indicated a 2 acre minimum for a digestion system large enough to be profitable (CDM Smith, 3-5). 40 thousand tons represents only a fraction of the overall organic resources produced in Boston each year. Again, this might support the idea of developing Newmarket as a pilot facility, or one of several in a network, rather than assuming the entire infrastructure could be located in this neighborhood.

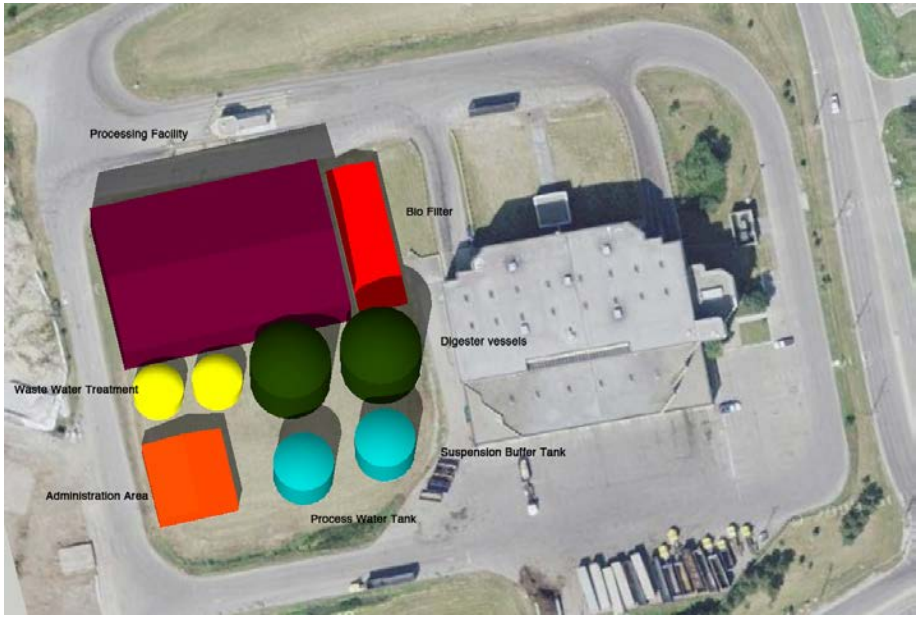

Figure 13: Toronto facility with labels. (Submitted by Earthos Design Team).

Figure 14: Toronto facility - Newmarket Overlay (Submitted by Earthos Design Team)

Figure 13 depicts the actual layout of Toronto's anaerobic digestion facility, which processes between 30-40 thousands tons of organic materials each year. **Figure 14** places that layout into the Newmarket district. This illustrates that the size and nature of the facilities are consistent with the surrounding infrastructure in Newmarket.

Costs and Funding

One way to assess the financial scenario of an relatively unprecedented project like urban organics repurposing through anaerobic digestion is to try and find similar projects through which we can project anticipated costs. The town of Hamilton, Massachusetts is currently considering a similar program for their organic resource stream. They contracted a feasibility analysis that details the proposed system, and their cost analysis can be relevant to understanding such a program. It is important to note that their figures incorporate the hauling of digestate offsite for "disposal," which is a significant cost to the operation. This plan is therefore not entirely analogous to a closed-loop system in which digestate is a source of revenue through sales of organic fertilizer. Therefore, the profits of such a facility may be underestimated.

Sources of Revenue

- City Contracts
- Fertilizer Sales
- Energy Sales

The KOMPOGAS Compact

KOMPOGAS is a high-solid thermophilic dry digestion process developed in Switzerland (see also anaerobic treatment of waste and wastewaters). It is a compact plant consisting of a horizontal functioning as plug-flow reactor (PFR). The reactors are fed regularly, mostly every day. Most of the feedstock for KOMPOGAS plants comes from municipalities that support source-separated collection of organic wastes or from the food industry. Before the waste is filled into the reactor, ferrous and plastic materials are removed, it is mixed, and it is sent through a grinder (Ostrem, 2004). Slowly rotating intermittent propellers push the waste through the digester, having also the effect of homogenising and degasing the pulp and of keeping heavier particles in suspension (Ostrem, 2004). The retention time is of approximately 20 days (MES et al. 2003).

The digested material is then dewatered; some of the press water is being recirculated to the reactor to provide an inoculum and to maintain optimal moisture conditions. The excess liquid is sold as liquid fertiliser. The solid fraction is composted (3 to 4 weeks) and sold as soil amendment. The produced biogas is generally transformed in a CHP unit providing 100 % of the facility needs as well as additional electricity for sale. In some cases, the biogas is upgraded to natural gas standards for use in vehicles or input to the natural gas network (Ostrem, 2004). Due to the mechanical requirements of the system, the size of the reactors is limited. To enhance capacity an additional reactors need to be installed in parallel (Ostrem, 2004).

Sustainable Sanitation and Water Management. "Anaerobic Digestion (Organic Waste
http://www.sswm.info/category/implementation-tools/wastewater-treatment/hardware/solid-waste/anaerobic-digestion-organic-

Other Examples:
Toronto, Ontario, Canada - http://www.toronto.ca/garbage/index.htm

The consulting firm CDM Smith explains that:

> The initial phase of this analysis was conducted for a 100 and 200 tpd facility (5 days per week waste acceptance operation). Because there are no baseline facilities for comparison in New England, CDM Smith made general assumptions about the costs based on current market conditions and preliminary vendor information. CDM Smith then assessed the Present Value of each alternative. The 15-year Present Value for the 100 and 200 tpd facility was approximately $2.2 and $12.2 million, respectively. Note that these estimates do not include the various tax incentives that would be available for a private firm developing this type of facility.
> (CDM Smith, 2012, ES-3).

They further explain that:

> As part of the effort to evaluate the potential for the development of an anaerobic digester facility at the Hamilton Landfill, CDM Smith undertook an effort to evaluate and compare the costs to permit, construct and design the facility; operate it by accepting source separated organic wastes for a disposal tipping fee; generate electricity for sale back into the grid; and dispose of the digestate residual off-site. The intent of this analysis was to assess whether a facility could be financially viable at the site
> (CDM Smith, 2012, 4-1).

Table 4-2
Summary of Comparative Unit Costs for Anaerobic Digestion Facility at Hamilton Landfill

Revenue and Cost Item	Assumed Tons Per Day		Notes/Units
	100[1]	200[1]	
Tons Organic Waste Accepted Per Year	26,000	52,000	
Anticipated Per Ton Tip Fee for Incoming Organic Waste	$ 40	$ 40	Per Ton in 2015
Facility Rated Electric Generation	1,000	2,000	kilowatts
Electricity Availability	90%	90%	
Annual Electrical Generation	7.9	15.8	MW-hours per year
Net Unit Revenue from Electricity	$0.06	$0.06	per kilowatt-hour
Assumed Capital Cost	$5,000,000	$8,000,000	Highly variable – assumes simple system
Percent Capital Assumed for Annual O&M	5%	5%	
Percent of Incoming Waste Removed as Digestate	35%	35%	Varies based on technology selected
Cost Per Ton Including Hauling for Digestate Disposal	$ 15	$ 15	Assumes nearby reliable off-site disposal and hauling – highly variable

1. Assumed 5 days per week, 52 weeks per year.

Again, this cost-revenue analysis does not factor in the sales of the digestate as an integral product coming out of the system, which could ultimately change the profitability tremendously.

The following three charts outline CDM Smith's cost-revenue analysis, providing us with some insight into the development pocess.

Table 4-3
Summary of Annual Operating Costs and Revenues
for 100 Ton Per Day Anaerobic Digestion Facility

Revenue or Cost Item	Calendar Year		
	2015	2020	2025
Amortization of Capital Cost	$(482,000)	($482,000)	($482,000)
Operation and Maintenance	$(250,000)	$(282,000)	$(337,000)
Annual Host Community Fee	$(78,000)	$(90,000)	$(105,000)
Labor Allowance	$(400,000)	$(464,000)	$(538,000)
Cost for Off-Site Hauling and Disposal of Digestate	$(137,000)	$(158,000)	$(183,000)
Annual Monitoring and Reporting (Allowance)	$(80,000)	$(93,000)	$(108,000)
Annual Revenues from Electricity Sales	$473,000	$549,000	$636,000
Annual Revenue from Tipping Fees	$1,040,000	$1,205,000	$1,396,000
TOTAL ANNUAL NET REVENUES	**$87,000**	**$177,000**	**$279,000**
Present Value – Annual Net Revenues	$87,000	$141,000	$176,000

Note: Cost items are shown in parentheses. Costs and revenues are rounded to nearest $1,000.

Table 4-4
Summary of Annual Operating Costs and Revenues
for 200 Ton Per Day Anaerobic Digestion Facility

Revenue or Cost Item	Calendar Year		
	2015	2020	2025
Amortization of Capital Cost	$(771,000)	$(771,000)	$(771,000)
Operation and Maintenance	$(400,000)	$(464,000)	$(538,000)
Annual Host Community Fee	$(156,000)	$(181,000)	$(210,000)
Labor Allowance	$(550,000)	$(639,000)	$(741,000)
Cost for Off-Site Hauling and Disposal of Digestate	$(273,000)	$(316,000)	$(366,000)
Annual Monitoring and Reporting (Allowance)	$(100,000)	$(115,000)	$(130,000)
Annual Revenues from Electricity Sales	$946,000	$1,096,000	$1,271,000
Annual Revenue from Tipping Fees	$2,080,000	$2,410,000	$2,793,000
TOTAL ANNUAL NET REVENUES	**$776,000**	**$1,020,000**	**$1,304,000**
Present Value – Annual Net Revenues	$776,000	$811,000	$824,000

Note: Cost items are shown in parentheses. Costs and revenues are rounded to nearest $1,000.

Tables 3-5: CDM Smith Summary Cost-Revenue Analyis.
Source: CDM Smith. 2012. "Fatal Flaw Analysis for Development of an anaerobic Digester facility at Hamilton Landfill Site." ***Feasibility Study. Town of Hamilton Massachusetts.*** **Internal Document. P. 4-2**

Further, CDM chose to maintain a very low cost for the sale of electricity as the infrastructure is not currently in place for 'net-metering' energy from AD into the city's electric system like it is with wind and solar energy (CDM Smith, 2012, 4-2). Nevertheless, finding that there is a profit margin to such a program supports the use of AD for urban organics repurposing.

According to the feasibility analysis, the assumed capital costs are quite variable, depending on the technology selected for the facility, and the amount of organic resources for which the facility had capacity. For a facility processing 100 tons of organic material per year, the capital cost is estimated around $5 million. This facility would have net returns averaging $150,000 per year. For a facility processing 200 tons of material, the capital cost is estimated at $8 million. The net returns in this system jump to $800,000 per year. Once again, these returns not only don't include profits from fertilizer sales, but instead incorporate costs of hauling for digestate "disposal." The numbers therefore imply the system would have an overall net gain, but potentially underestimate what that gain may be.

Currently, the financial incentives to invest in anaerobic digestion technology are growing. Municipal, state and federal legislation provide incentives for sustainable energy development, and an anaerobic digestion facility is easily slated to receive such funding. There are a variety of technical and financial assistance programs in Massachusetts to help encourage clean energy production and organics management facilities. These programs include assistance in every stage of project development - site assessment, feasibility studies, design assistance, construction, production incentives, project review etc. Specific examples include the Green Communities Act, the Sustainable Materials Recovery Program, Renewable Energy Certificates, federal tax incentive programs and the Organics to Energy program at the Massachusetts Clean Energy Center.

What are some examples of organics repurposing facilities we can look to?

Anaerobic digestion as a means of municipal waste management is not a model that is easy to find in the United States to date. In general, anaerobic digestion is much more popular in Europe and increasingly in Canada. Currently, most of the anaerobic digestion in America takes place on large-scale industrial farms looking to mitigate the environmental destruction of vast animal-based pollution. There are, however, examples we can look to, both success stories and projects just getting off the ground.

Chapter 10:
Final Thoughts and Considerations

Considering that this document provided a great breadth of information and touched on both wide spread and progressive ideologies, let us take a moment to reflect on a few of the main conclusions, or takeaways as identified in each of the three sections:

Section One:
Understanding the Dominant Economic Model:

Through the use of stories, factual context, and the theoretical framework of the Six Economic Factors, we displayed how Walmart operates in the context of the dominant economic model. It is important to remember the guiding values of the dominant economic model include efficiency, profits, and growth. In short, Walmart uses private ownership, control over the supply chain, and an un-democratic decision making structure in order maximize profits. Contrary to their marketing campaign, we have displayed that in actuality Walmart degrades local economies by offering below market prices and non-living wages.

Section Two; Building New Economies:

In this section, we again used stories in order to "show," rather than "tell" what a different economy can look like. We introduced the term Solidarity Economy, and gave specific examples for displaying how the SE is already in operation all around us. We provided a detailed account of cooperative businesses, and how they can be profitable within the existing economy WHILE adhering to specific collective values. We addressed how powerful it could be to build not just one co-op, but a network of co-ops. The main objective for this section was to inspire readers to think in terms of systems, and networks in the context of their own local economies. Although the SE can take on many forms, it is important to think about ways we can build these connections throughout our own communities.

Section Three; Envisioning a More Just and Sustainable Economy:

This section provided a great deal of context regarding the current food system of the greater Boston area. By identifying "gaps" in the food system and choosing locale, we presented the ideas of a food co-op in Winter Hill, and an organics repurposing center in Newmarket. Whether or not these ideas actually come into fruition, is not the centralized concern. The true objective for this section was to provide a "vision," based on access to healthy food, healthy jobs, and the SE. With this vision it is our hope that community organizations and community members, may feel inspired to can deepen their own set of "guiding values," and develop more personalized and tailored business plans.

As stated in the introduction, the Practical Visionaries Workshop is an ongoing process in which students and community organizations can come together to discuss both theory and practice. It is our hope that future participants and community members can work off of the information provided in this document, to detail a cleaner iteration of the importance of systems based thinking in relation to the health and prosperity of our society. In addition, due to the progressive nature of some of the ideas presented in this document, it is very difficult to talk about the Solidarity Economy, in relation to the current dominant economic model. We strove to do this, by utilizing fictional stories, however there is still much work to be done. Developing consistent, and extremely accessible language is essential to empowering wide spread sustainability and prosperity for our communities.

APPENDIX A:
GLOSSARY OF TERMS

SECTION ONE:
UNDERSTANDING THE DOMINANT ECONOMIC MODEL

Profit margin – noun; net profit after taxes divided by sales for a given 12-month period, expressed as a percentage (investorwords.com). Profit margin is a major driving force

Yield – noun, the amount produced in return for cultivation

Distributor or Supplier – noun, a person, firm, etc., engaged in the general production, distribution, and marketing of goods or services.

Sourcing - noun, the purchasing of capital, labor, or components of a product from a supplier. In the dominant model, sources often one located abroad, and chosen for reasons of efficiency (creating maximum output value for minimum input value).

Supply chain – noun, a channel of distribution beginning with the supplier of materials or components, extending through a manufacturing process to the distributor and retailer, and ultimately to the consumer (investorwords.com)

Sustainable – adjective, pertaining to a system that maintains its own viability by using techniques that allow for continual reuse: sustainable agriculture. Aquaculture is a sustainable alternative to overfishing, able to be maintained or kept going, as an action or process: a sustainable negotiation between the two countries, able to be supported as with the basic necessities or sufficient funds: a sustainable life

Capitalism – noun, an economic system and social structure in which investment in and ownership of the means of production, distribution, and exchange of wealth is made and maintained chiefly by private individuals or corporations, especially as contrasted to cooperatively or state-owned means of wealth. The dominant economic model is rooted in Capitalist processes of accumulation - getting more.

Net income – noun, for an individual, gross income minus taxes, allowances, and deductions. An individual's net income is used to determine how much income tax is owed (www.investorwords.com)

Groundwater – noun, the water beneath the surface of the ground, consisting largely of surface water that has seeped down: the source of water in springs and wells

Food desert - any area in the industrialized world where healthy, affordable food is difficult to obtain. Food deserts are prevalent in rural as well as urban areas and are most prevalent in low-socioeconomic minority communities. They are associated with a variety of diet-related health problems[1]

Market – noun, the interaction of supply and demand for a particular product or commodity; the exchange of values (money, bartering).

Growth - noun, Accumulation; an increase in the level of production of goods and services leading to increased in surplus accumulation.

Net – noun, the amount remaining after certain adjustments have been made for debts, deductions, or expenses. (investorwords.com)

Efficiency – noun, creating maximum output value for minimum input value. This is the central motivation of the dominant economic model.

SECTION TWO:
BUILDING NEW ECONOMIES

Organize – verb, to form as or into a whole consisting of interdependent or coordinated parts, especially for collective action

Organizer – noun, a person who organizes, especially one who forms and organizes a specific group like a union or community organization.

Community organizing – verb, a process where people who live in proximity to each other come together to act in their shared self-interest. A core goal of community organizing is to generate *durable* power for an organization representing the community, allowing it to influence key decision-makers on a range of issues over time[2]

I**nterest rate** – noun, a rate which is charged or paid for the use of money. An interest rate is often expressed as an annual percentage of the principal. It is calculated by dividing the amount of interest by the amount of principal. Interest rates often change as a result of inflation and Federal Reserve Board policies. (investorwords.com)

Asset – noun, in the dominant economic model, any item of economic value owned by an individual or corporation, especially that which could be converted to cash. Social assets, non-market assets, non-monetary assets are much more difficult to quantify and so are less valued in the dominant economic model.

Labor union – noun, an organization of wage earners or salaried employees for mutual aid and protection and for dealing collectively with employers; trade union

Public-private partnership – noun, describes a government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies.

Carbon footprint – noun, the total set of greenhouse gas (GHG) emissions caused by an organization, event, product or person

Economy – noun, activities related to the production and distribution of goods and services in a particular geographic region, The correct and effective use of available resources. (investorwords.com)

Enterprise – noun, business or venture. (investorwords.com)

Reciprocity – noun, mutual exchange

Zoning – noun/adjective, (especially in city planning) of or pertaining to the division of an area into zones, as to restrict the number and types of buildings and their uses: zoning laws

Urban agriculture – noun, the practice of cultivating, processing and distributing food in, or around, a village, town or city (Bailkey, M. and J. Nasr. 2000. *From Brownfields to Greenfields: Producing Food in North American Cities*. Community Food Security News. Fall 1999/ Winter 2000:6)

Foodstuff – noun, any material, substance, etc, that can be used as food

Ecosystem – noun, a system formed by the interaction of a community of organisms with their environment

SECTION THREE:
ENVISIONING A MORE JUST AND SUSTAINABLE FOOD ECONOMY

Anchor institutions – noun, economic engines for cities and regions, acting as real estate developers, employers, purchasers of goods, magnets for complementary businesses, community-builders, and developers of human capital (http://penniur.upenn.edu/research/anchor-institutions).

Tax base – noun, the sum of taxable activities, collective value of real estate, and assets subject to tax within a community (investorwords.com)

Comprehensive Plan (Master Plan) – noun, an adopted statement of policy, in the form of text, maps, and graphics, used to guide public and private actions that affect the future, provides decision makers with the information they need to make informed decisions affecting the long-range social, economic, and physical growth of a community[3]

Monitoring – noun, to watch closely for purposes of control, surveillance, etc.; keep track of; check continually

Evaluation – noun, the process of examining a system or system component to determine the extent to which specified properties are present

Agency-Initiated Model – noun, an outside agency or organization starts the cooperative, finds capital, provides training, and then afterwards turns it over to worker-control
("Solidarity Economy: Building Alternatives for People and Planet, by Jenna Allard, Carl Davidson, and Julie Matthaei". 214.)

Membership – noun, the state of being a member, as of a society or club, the status of a member, . the total number of members belonging to an organization, society, etc

Steering committee – noun, the steering committee is responsible for moving the co-op through its early stages, until more formal structures can be established (http://www.cgin.coop/node/7078)

Change agent – noun, defined as a person who leads change within the organization, by championing the change, and managing and planning its implementation (http://www.processexcellencenetwork.com/glossary/change-agent/)

Gross square footage – noun, unit of measurement of a building from outside the exterior walls (http://www.answers.com/topic/gross-square-foot)

Startup costs – noun, a variety of different costs that a new business owner must incur in order to get the business established. Typically these are one-time costs (investorwords.com)

Net operating income – noun, income after deducting for operating expenses but before deducting for income taxes and interest (investorwords.com)

Compost – noun, a mixture of various decaying organic substances, as dead leaves or manure, used for fertilizing soil

Feasibility study – noun, a study designed to determine the practicability of a system or plan

Appendix A: Glossary of Terms

Greenhouse gases – noun, any of the gases whose absorption of solar radiation is responsible for the greenhouse effect, including carbon dioxide, methane, ozone, and the fluorocarbons

Terrestrial – adjective, of or pertaining to land as distinct from water

Emissions – noun, an act or instance of emitting: the emission of poisonous fumes

Climate change mitigation – noun, action to decrease the intensity of radiative forcing in order to reduce the potential effects of global warming (http://www.ipcc.ch/pdf/glossary/ar4-wg3.pdf)

Waste stream – noun, aggregate flow of waste material from generation to treatment to final disposition (businessdictionary.com)

Aerobic digestion – noun, the conversion of biodegradable waste matter into compost

Anaerobic digestion – noun, the conversion of biodegradable waste matter into compost *in the absence of oxygen*

Homogenization – noun, to make uniform or similar, as in composition or function: to homogenize school systems

Purify – verb, to make pure; free from anything that debases, pollutes, adulterates, or contaminates: to purify metals

Useable outputs – noun, things produced from a system that can be used, rather than need to be disposed of

Dehydration – noun, the process of removing water from a substance or compound

Biogas – noun, any gas fuel derived from the decay of organic matter, as the mixture of methane and carbon dioxide produced by the bacterial decomposition of sewage, manure, garbage, or plant crops

Cogeneration – noun, utilization of the normally wasted heat energy produced by a power plant or industrial process, especially to generate electricity

Night soil – noun, human excrement collected, processed and used as fertilizer

Clean-tech – adjective, using clean technology

Bioproducts – noun, materials, chemicals and energy derived from renewable biological resources[4]

Renewable energy – noun, any naturally occurring, theoretically inexhaustible source of energy, as biomass, solar, wind, tidal, wave, and hydroelectric power, that is not derived from fossil or nuclear fuel

Carbon footprint – noun, the amount of carbon dioxide or other carbon compounds emitted into the atmosphere by the activities of an individual, company, country, etc.: the carbon footprint of an overseas flight; how to measure your carbon footprint

Streamline – verb, to alter in order to make more efficient or simple

Wage-ratio – noun, quantity which expresses the proportion of income represented by total earnings from employment (wages and sala-

ries) and thus provides a measure of the trend in functional income distribution (http://www.eurofound.europa.eu/emire/AUSTRIA/ANCHOR-LOHNQUOTE-AT.htm)

General Assembly – noun, the highest policy-making body of the co-operative and is the final authority in the management and administration of the affairs of the co-operative.It is composed of members who are entitled to vote, duly assembled and constituting quorum (http://learningcentre.coop/content/what-co-operative#assembly)

Energy efficiency – noun, using less energy to provide the same service (http://eetd.lbl.gov/ee/ee-1.html)

Digestate – noun, solid material remaining after the anaerobic digestion of a biodegradable feedstock

Net-metering – noun, an electricity policy for consumers who own (generally small) renewable energy facilities (such as wind, solar power or home fuel cells) or V2G electric vehicles

Profit margin – noun, what remains from sales after a company pays out the cost of goods sold. To obtain gross profit margin, divide gross profit by sales. Gross profit margin is expressed as a percentage

Clean energy – noun, energy, as electricity or nuclear power that does not pollute the atmosphere when used, as opposed to coal and oil that do

Plug-flow reactor – noun, a processing component of anaerobic digestion facilities that takes organic material as an input and produces processed material as well as methane as an output (http://www.epa.gov/agstar/documents/gordondale_report_final.pdf)

Inoculum – noun, the microorganisms or other material used in an inoculation. Also called *inoculant.*

Solid fraction – noun, the nonliquid component of separated organic waste (http://web.udl.es/usuaris/lea/archivos%20pdf/IIISympADSW.pdf)

Soil amendment (soil conditioner) – noun, any of various organic or inorganic materials added to soil to improve its structure

CHP – noun, also called: cogeneration, combined heat and power: the production of both heat and electricity from the same device or power plant

APPENDIX B: SUSTAINABLE SYSTEMS THINKING

"Every model is ultimately the expression of one thing we think we hope to understand in terms of another that we think we do understand."

The increasingly insufficient nature of living taken on by developed countries has proven to have reached an economic as well as social standstill. With economic growth having been the mantra since the spark of the Industrial Revolution, there was a time when it was thought that more growth, any type of growth, would make livelihoods better. Work-life balance, if ever there was one, seems to be a figment of one's imagination-something that is relegated to yesteryear and not seen as an outcome that can be achieved again. Of course, this is not the case in all developed or developing countries. Rather, it undergirds a trend where unhappiness has been pushed to the forefront of people's very personal and real lives. Also, it has conjured up the idea that the way things are moving along is simply not "right".

Time is of the essence to delve into a few select alternative ways of working and living that have proven to work in other parts of the United States. We will see how they measure up in the context of two distinctive areas of Massachusetts-each with its own set of systems, values, and people.

In thinking about a system, there are many ways to go about deciding what it is, what it is comprised of, and who is included in it. To parcel out what we mean by a system within the context of this report, we will seek to delineate some key ideas and terms that can guide our thinking and support the reasons why we feel the alternative model we are suggesting is a fruitful one.

Underlying our advocacy for a system is the very true belief that the current ideas encapsulated by growth and pushed forth by tradition cannot be sustained forever. More importantly, is the idea that people simply are not "happy". We would like to propose a new vision, a new system, which can not only rival what we are currently working with, but can also be better for the people and entities in their daily lives.

So, why a "system?" What is it about a system, and systems thinking in particular that make it so compelling across disciplines? In postwar America, around the 1940s, there was an uptick in interest in terms of the behavioral sciences-organizations such as the Ford Foundation started to invest heavily in the study of *people* (Hammond, 7). Behavioral sciences generally arose out of what some term as the "dissatisfaction" of the fragmentation between disciplines. From the beginning, systems thinking and theory was interdisciplinary in nature. In 1954, the creation of the Society for General Systems Research (SGSR) was created by two gentlemen interested in "theoretical frameworks relevant to the study of different kinds of systems, including physical, technological, biological, social, and symbolic systems." (Hammond, 9). They viewed systems theory as inherently holistic, a move away from the discipline of traditional sciences.

People criticized systems thinking in the 1960s and 1970s with some claiming that systems thinking served as a cloak for keeping an elite class of people in power (Hammond, 11). We can imagine how the "counter culture" movement of the time period clashed greatly with the idea of any system being the way to govern the world (Hammond, 12).

It is important to note that systems thinking in and of itself is hard to define, even among claimed participants in systems research (Ham-

mond, 17). Understanding spans from specificity, to disciplines, to using different terminology that essentially means the same thing (i.e. systems theory, systems approach, systems thinking, systems analysis, systems engineering). These terms are used sometimes interchangeably and can quickly become confusing to the untrained ear. It will be imperative for users in or across any disciplines to establish what they *mean* by systems thinking, theory or whatever they want to name it, and utilize the same language throughout their works.

Ecological and social theory highlights the continued controversy with combining ecological and social functions-which we can understand as a basis for the idea of sustainable economic development (Hammond, 78). An economist, Kenneth Boulding expresses his frustration of conventional economic theory, again spanning back to postwar America and makes it clear through his involvement in systems research that he believed in a holistic view of the economy where balance and peace *could* be achieved (Hammond, 77).

Despite the holistic nature of systems theory, it is not meant to state that theorists are in support of a change, especially in terms of an alternative economic model. Even Boulding, an early advocate of systems thinking, considered the strengths of capitalism as having an innate ability to "coordinate organizations into an ecosystem that is not centrally integrated" (Hammond, 208).

The system seeks to foster an inclusive balance of jobs and work between people and institutions. The type of system we are proposing is one in which agriculture, transportation, energy, sustainable building, and biodiversity and most importantly people are respected. We are seeking to plug into what is working.

Our idea may be most in tandem with the idea of a steady state economy, but is not explicitly defined as such. A proposed system is not meant to serve as the best of all possible systems or as a final analysis and solution to an issue. Humans strive to make order out of chaos, to glean simplicity out of complexity, and it is through this never-ending pursuit that the idea of a "system" has come into being.

At its most basic level, a system can provide a limited understanding to the way a functional sub-section of the world, and the people in it, interact. Realizing that the built environment is a major inhibitor to sustainable and healthy living for all, it is imperative to use current knowledge and technologies that can offset or eradicate continuous degradation of the natural environment as well as rampant overconsumption.

Hammond, Debora. (2003). The science of synthesis: exploring the social implications of general systems theory. *Boulder: University Press of Colorado.*

"Change is not driven by systems, but rather by people who find themselves trusted. Systems only help people innovate. The rest is just hard work."

- Mette Abrahamsen, Team Manager, Danish Technological Institute

APPENDIX C: ICA STATEMENT ON THE CO-OPERATIVE IDENTITY (1996)

Definition
A co-operative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise.

Values
Co-operatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity. In the tradition of their founders, co-operative members believe in the ethical values of honesty, openness, social responsibility and caring for others.

Principles
The co-operative principles are guidelines by which co-operatives put their values into practice.

1st Principle: Voluntary and Open Membership
Co-operatives are voluntary organisations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.

2nd Principle: Democratic Member Control
Co-operatives are democratic organisations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. In primary co-operatives members have equal voting rights (one member, one vote) and co-operatives at other levels are also organised in a democratic manner.

3rd Principle: Member Economic Participation
Members contribute equitably to, and democratically control, the capital of their co-operative. At least part of that capital is usually the common property of the co-operative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing their co-operative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the co-operative; and supporting other activities approved by the membership.

4th Principle: Autonomy and Independence
Co-operatives are autonomous, self-help organisations controlled by their members. If they enter to agreements with other organisations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their co-operative autonomy.

5th Principle: Education, Training and Information
Co-operatives provide education and training for their members, elected representatives, managers, and employees so they can contribute effectively to the development of their co-operatives. They inform the general public - particularly young people and opinion leaders - about the nature and benefits of co-operation.

6th Principle: Co-operation among Co-operatives
Co-operatives serve their members most effectively and strengthen the co-operative movement by working together through local, national, regional and international structures.

7th Principle: Concern for Community
Co-operatives work for the sustainable development of their communities through policies approved by their members.

Source: Statement on the Co-operative Identity. (2007). International Cooperative Alliance. Retrieved from http://www.ica.coop/coop/principles.html

List of Somerville Grocery Stores, Supermarkets, and Convenience Stores

Company Name	Address	ZIP Code
7-Eleven	582 Broadway	02145
Alisson Market	46 Broadway	02145
Amigos Grocery Store	86 Broadway # A	02145
Bombay Market	359 Somerville Ave # A3	02143
Cumberland Farms	701 Somerville Ave	02143
Esquina Brasil	161 Washington St	02143
Food Master Supermarkets	105 Alewife Brook Pkwy	02144
Foodmaster Supermarkets	45 Beacon St	02143
Friendly Market	71 Springfield St	02143
Highland Market	22 Highland Ave	02143
International Market	365 Somerville Ave	02143
L P Market	96 Highland Ave	02143
LA International Foods Corp	318 Somerville Ave	02143
Latino Americas Market	491 Broadway	02145
Little India	438 Somerville Ave	02143
Maria's Cold Cut Ctr	1156 Broadway	02144
Market Basket	400 Somerville Ave	02143
New Market	577 Somerville Ave	02143
Pao De Acucar	57 Union Sq	02143
Reliable Meat Market	45 Union Sq	02143
Reliable Video	52 Union Sq	02143
S S Market	66 Summer St	02143
Salve Regina Market	366 Mystic Ave	02145
Seabra Foods LLC	624 Somerville Ave	02143
Shaw's Supermarket	14 Mcgrath Hwy # 2	02143
Sherman Cafe Inc	22 Union Sq	02143
Star Market	275 Beacon St	02143
Stop & Shop Supermarket	775 Mcgrath Hwy	02145
Super Stop & Shop	775 Mcgrath Hwy	02145
Tedeschi Food Shops	90 Washington St	02143
Tony's Foodland	104 Broadway	02145
Union Square Market	22 Bow St	02143
Vinny's At Night	76 Broadway	02145

*Data from US Census Bureau, North American Industry Classification System (NAICS)

Appendix F - Somerville Community Advocacy Organizations

Company Name	Address	ZIP Code	Location Employee Size Range	Phone Number
Alcoholism & Drug Detox Help	519 Somerville Ave # 271	02143	5 to 9	(617) 284-6033
Boston Musica Viva	353 Beacon St	02143	1 to 4	(617) 354-6910
Boys & Girls Club-Middlesex	181 Washington St	02143	20 to 49	(617) 628-4665
Brain Trust The Healing Exch	490 Broadway # 4	02145	1 to 4	(617) 876-2002
Caspar	3 Summit Ave	02143	1 to 4	(617) 776-6036
CASPAR Inc	16 Highland Ave	02143	5 to 9	(617) 623-5277
CASPAR Inc	162 Highland Ave	02143	20 to 49	(617) 623-2080
CASPAR Inc	315 Highland Ave	02144	5 to 9	(617) 628-3850
Community Enterprises Inc	561 Windsor St # A401	02143	1 to 4	(617) 666-0990
Cores Community Org Refugees	343 Medford St # B	02145	1 to 4	(617) 623-5322
Council For Children Inc	69 Curtis St	02144	1 to 4	(781) 646-0550
Dare Family Svc Greater Boston	265 Medford St # 500	02143	10 to 19	(617) 628-3669
Earthworm Inc	35 Medford St # 203	02143	5 to 9	(617) 628-1844
East Somerville Main Street	114 Broadway	02145	1 to 4	(617) 623-3869
Elizabeth Peabody House	277 Broadway	02145	20 to 49	(617) 623-5510
Family Center Inc	366 Somerville Ave	02143	20 to 49	(617) 628-8815
Firstgiving Inc	48 Grove St # 105	02144	20 to 49	(617) 591-2121
Greater Boston Physicians	66 Union Sq # 204	02143	5 to 9	(617) 440-1735
Groundwork Somerville	19 Rev Nazareno Properzi Way	02143	1 to 4	(617) 628-9988
International Physicians	66 Union Sq # 204	02143	5 to 9	(617) 440-1733
LA Salette Of Somerville	401 Medford St	02145	1 to 4	(617) 628-6777
Little Sisters Of The Poor	186 Highland Ave	02143	50 to 99	(617) 776-4420
Massachusetts Alliance-Portgse	92 Union Sq	02143	20 to 49	(617) 628-6065
META	240a Elm St # 22	02144	1 to 4	(617) 628-2226
Mudflat Pottery School	81 Broadway	02145	5 to 9	(617) 628-0589
Open Center For Children	155 Powder House Blvd	02144	5 to 9	(617) 628-3891
Political Research Assoc	1310 Broadway # 201	02144	5 to 9	(617) 666-5300
Polus Center	240 Elm St # 23	02144	1 to 4	(978) 368-1550
Portugese American Civic	26 Springfield St	02143	5 to 9	(617) 776-8859
Resist	259 Elm St # 201	02144	1 to 4	(617) 623-5110
SCM Community Transportation	167 Holland St	02144	50 to 99	(781) 625-1191
Somerville City Club	20 Innerbelt Rd	02143	5 to 9	(617) 625-5730
Somerville Early Head Start	474 Broadway	02145	10 to 19	(617) 629-6652
Somerville Home Inc	117 Summer St	02143	20 to 49	(617) 776-0260
Somerville Homeless Coalition	1 Davis Sq	02144	20 to 49	(617) 623-6111

Appendix G - Roxbury Grocery Stores, Supermarkets, and Convenience Stores

Company Name	Address	ZIP Code
Academy Market Inc	1588 Columbus Ave	02119
Andrade Market	93 Burrell St	02119
Brown Market & Grocery	194 Dudley St	02119
Ceasar Grocery Store II	113 Blue Hill Ave	02119
Crystal's Market	173 Dudley St	02119
Davey's Super Market	438 Dudley St	02119
Eliana Market	1909 Columbus Ave	02119
Gina Grocery Store	251 Dudley St	02119
Home Market Foods	18 Food Mart Rd	02118
Juba Market Cafe	50 John Eliot Sq	02119
KABA African Market	29 Roxbury St	02119
LA Peravianas	3099 Washington St	02119
Lluvia Market	1985 Columbus Ave	02119
Lord Jeffs Beef Place	129 Newmarket Sq	02118
Luzelena Market	305 Dudley St	02119
Mini Market	64 Blue Hill Ave # A	02119
Save-A-Lot	330 Martin Luther King Bl # 41	02119
Senado Market	2825 Washington St	02119
Walnut Market	66 Walnut Park	02119
Warren Market	256 Warren St	02119

*Data from US Census Bureau, North American Industry Classification System (NAICS)

Appendix H - Roxbury Grocery Stores, Supermarkets, and Convenience Stores

Company Name	Address	ZIP Code	Location Employee Size Range	Phone Number Combined
Berkana Institute	125 School St # 1	02119	1 to 4	(617) 553-4806
Boston Urban Youth Foundation	130 Warren St	02119	5 to 9	(617) 445-3380
Caritas Communities	28 Mount Pleasant Ave	02119	20 to 49	(617) 541-9721
Central Boston Elder Svc	2315 Washington St	02119	100 to 249	(617) 516-0288
Childrens' Services Of Roxbury	520 Dudley St	02119	100 to 249	(617) 989-9400
Community Development Corp	801 Albany St # 2	02119	5 to 9	(617) 442-2114
Cooper Community Ctr	1891 Washington St	02118	20 to 49	(617) 445-1813
D2D Fund Inc	18 Palmer St	02119	1 to 4	(617) 541-9066
Dimock Center	55 Dimock St	02119	250 to 499	(617) 442-8800
Dimock-Sehila Daniels House	158 Walnut Ave	02119	1 to 4	(617) 442-4369
Hawthorne Youth-Community Ctr	9 Fulda St	02119	1 to 4	(617) 427-0613
Historic Boston Inc	20 Eustis St	02119	5 to 9	(617) 227-4679
Latinas Y Ninos	263 Eustis St	02119	5 to 9	(617) 445-1104
Madison Park Development Corp	184 Dudley St # 102	02119	10 to 19	(617) 541-3900
Rosa Parks Day Care Ctr	82 Savin St	02119	10 to 19	(617) 445-5600
Sojourner House Inc	85 Rockland St	02119	10 to 19	(617) 442-0590
Urban League Of Eastern Mass	88 Warren St	02119	20 to 49	(617) 442-4519
Victory Programs Inc	965 Massachusetts Ave	02118	20 to 49	(617) 541-0222
Waitt House Inc	117 Mount Pleasant Ave	02119	10 to 19	(617) 445-5510
Youth Build Boston Inc	504 Dudley St # 1	02119	10 to 19	(617) 445-8887

*Data from US Census Bureau, North American Industry Classification System (NAICS)

Resources - By Chapter
Chapters 1 and 2

AFL-CIO. (2003). Walmart: An Example of Why Workers Remain Uninsured and Underinsured. Retrieved from http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1029&context=laborunions

Albert, M. (2004). *Parecon: Life after capitalism*. New York, NY: New Left Books.

Antitrust Institute. (2008) Transition Report on Competition Policy. Retrieved from http://www.antitrustinstitute.org/files/Food%20Chapter%20from%20%20AAI%20Transition%20Report_100520082051.pdf

Baiman, Ron; Davis, Julie; Flanagan, Brian; Merriman, David; Persky, Joe; and Lucia Samayoa. (2009). The Impact of an Urban Walmart Store on Area Businesses: An Evaluation of One Chicago Neighborhood's Experience. *Center for Urban Research and Learning*. Retrieved from http://luc.edu/curl/pdfs/Media/WalMartReport21010_01_11.pdf

California Certified Organic Farmers. (2010). Organic Strawberry Production. Retrieved from http://www.ccof.org/org_resources_ucscstrawberries.php

Care2. (2011). Caught Red-Handed: Pesticides in Organic Strawberry Plants. Retrieved from http://www.care2.com/causes/caught-red-handed-pesticides-in-organic-strawberry-plants.html

Fishman, C. (2006). *The Walmart effect: How the world's most powerful company really works-and how it's transforming the American economy*. New York, NY: The Penguin Press.

Food and Water Watch. (2012). Why Walmart Can't Fix the Food System. Retrieved from http://www.foodandwaterwatch.org/tools-and-resources/why-walmart-cant-fix-the-food-system/

Graham-Squire, Dave; Jacobs, Ken; and Stephanie Luce. (2011). Living Wage Policies and Big-box Retail: How a Higher Wage Standard Would Impact Walmart Workers and Shoppers. University of California, Berkeley Center for Labor Research and Education. Retrieved from http://laborcenter.berkeley.edu/retail/bigbox_livingwage_policies11.pdf

Kastel, Mark Alan. (2006). Walmart: The Nation's Largest Grocer Rolls Out Organic Products: Market Expansion or market Delusion? *Cornucopia Institute*. Retrieved from http://www.cornucopia.org/WalMart/WalMart_White_Paper.pdf

Lichtenstein, N.L. (Ed.). (2006). *Wal-Mart: The face of twenty-first-century capitalism*. New York, NY: The New Press.

Mitchell, Stacy. (2010). Letter to Baltimore City Council. *Institute for Self-Reliance*. Retrieved from http://progressivemaryland.org/public/documents/releases/2010/2010-9-15baltcan-walmart-costsjobs-ilsr.pdf

Montana Wheat and Barley Committee. (2007). Montana Rail Grain Transportation Survey and Report. Retrieved from http://wbc.agr.mt.gov/Producers/2007MRGTsurvey.pdf

CHAPTERS 3 AND 4

Alperovitz, G. (2009). Cleveland's Worker Owned Boom. *Yes!* Retrieved from http://www.yesmagazine.org/issues/the-new-economy/clevelands-worker-owned-boom.

Canadian Worker Co-operative Federation. (2011). José Orbaiceta of the Worker Co-op Federation of Argentina at the 2011 North American Worker Co-operative Conference. Retrieved from http://www.youtube.com/watch?v=r3GiiqDTyAQ&feature=colike

Fonteneau, Bénédicte; Neamtan, Nancy; Wanyama, Fredrick; Pereira Morais, Leandro; de Poorter, Mathieu. (2010). ILO Reader: Social and Solidarity Economy: Building a Common Understanding. In support of the First Edition of the Social and Solidarity Economy Academy. ITC ILO, Turin, Italy.

Iuviene, Nicholas; Stitely, Amy; Hoyt, Lorlene. (2010). Sustainable Economy Democracy: Worker Cooperatives for the 21st Century. Mit-CoLab.

Miller, Ethan. (2006). Other Economies Are Possible. Dollars and Sense: Special Collaboration with Grassroots Economic Organizing: Organizing Toward an Economy of Cooperation and Solidarity. July/August 2006. 11-26.

Miller, Ethan. (2011). Occupy, Connect, Create: Imagining Life Beyond 'The Economy.' Grassroots Economic Organizing. Retrieved from www.geo.coop/node/729

Policy Link Newsletter. (2012). Access to Healthy Food. Retrieved from http://www.policylink.org/site/c.lkIXLbMNJrE/b.7634547/k.536E/Access_to_Healthy_Food/apps/nl/newsletter2.asp

Statement on the Co-operative Identity. (2007). International Cooperative Alliance. Retrieved from http://www.ica.coop/coop/principles.html

van den Berk-Clark, Carissa. (2011). Deconstructing Neoliberal Community Development Approaches and a Case for the Solidarity Economy. *Journal of Progressive Human Services*, 23:1, 1-17

Wang, Elaine. (N/D). The Cleveland Evergreen Cooperatives. *Institute for Sustainable communities.* Retrieved from http://www.iscvt.org/what_we_do/climate/case_studies/cleveland.php

CHAPTERS 5 AND 6

Adams, Frank; Hansen, Gary. (1993). Putting Democracy to Work. *Berrett-Koehler Publishing*. ISBN-10: 1881052095

City of Somerville. (2009). SomerVision: City of Somerville Comprehensive Plan 2010-2030. Retrieved from http://www.somervillema.gov/spotlights/comp-plan

Cooperative Development Services. (2008). Four Cornerstones in Three Stages. Retrieved from http://www.cdsconsulting.coop/fourcorner

Danforth, Art. (1997). Can We Help Build Inner City Co-ops? Retrieved from http://www.cooperativegrocer.coop/articles/2004-01-09/can-we-help-build-inner-city-co-ops

ICA Group. (N/D). About ICA. Retrieved from http://ica-group.org/

Kowitt, Beth. (2010). The Rise do the Grocery Co-op. Retrieved from http://money.cnn.com/2010/09/16/news/companies/grocery_coop_Brooklyn.fortune/index.htm

Grunert, Klaus. (2005). Food quality and safety: consumer perception and demand. *European Review of Agricultural Economics* 32:3 369–391

Gregson, Jennifer. (2001). System, Environmental, and Policy Changes: Using the Social-Ecological Model as a Framework for Evaluating Nutrition Education and Social Marketing Programs with Low-Income Audiences. *Journal of Nutrition Education* 33:1 S1-S15

Macey, Jonathan. (1993). The Community Reinvestment Act: An Economic Analysis. *Virginia Law Review* 79:2, 291-348 (http://www.jstor.org)

Morgan, R.; Hunt, S. (1994) The commitment-trust theory of relationship market-
ing. Journal of Marketing 58 (3) ,20.

Morland, Kimberly. (2010). An Evaluation of a Neighborhood-Level Intervention to a Local Food Environment. *American Journal of Preventative Medicine* 39:6 e31-e38

National Cooperative Growers Association. (N/D) Putting it all Together for Food
Co-ops. Retrieved from http://209-240-78-12.static.iphouse.net/

Nembhard, Jessica. (2006). Principles and Strategies for Reconstruction: Models of African-American Community-Based Cooperative Economic Development. *Harvard Journal of African American Public Policy* 12:1 39-55

Orth, Ulrich. (2009). Consumer loyalty to family versus non-family business: The roles of store image, trust and satisfaction. *Journal of Retailing and Consumer Services* 16:1 248-259

Rubin, Julia. (2005). The New Markets Tax Credit Program: A Midcourse Assessment. *Community Development Investment Review* 1-11

Warner, Kris. (2006). Building an Economic Democracy: Starting a Worker Cooperative.

Webber, Caroline. (2010). Shopping for fruits and vegetables. Food and retail qualities of importance to low-income households at the grocery store. *Appetite* 54:1 297-303

Wilson, D.T. (1995). An integrated model of buyer-seller relationships. Journal of the
Academy of Marketing Science 21 (1), 1–12.

Singh, J.; Sirdeshmukh, D. (2000). Agency and trust mechanisms in customer
satisfaction and loyalty judgments. Journal of the Academy of Marketing
Science 28 (1), 150–167.

US Small Business Administration. (N/D). Starting a Business. Retrieved from
http://www.sba.gov/category/navigation-structure/starting-managing-business/starting-business

US Federation of Worker Cooperatives. (N/D). Education and Resources. Retrieved from http://www.usworker.coop/front

CHAPTERS 7 AND 8

Allen Kani Associates, Enviros RIS Ltd. (2011). WDO Study: Implications of Different Waste Feed Streams (Source-Separated Organics and Mixed Waste). On Collection Options and Anaerobic Digestion Processing Facility Design, Equipment and Costs. Retrieved from www.nerc.org/documents/toronto_report.pdf

Boston Neighborhood Recycling Coalition. (2000). Boston Recycling Report. Page 1, Retrieved from
http://archive.org/details/bostonrecyclingr00bost.

Boston Redevelopment Authority, United States Environmental Protection Agency, and Meister Consultants Group. (2011). Newmarket Eco-Industrial Zone – Newmarket Business District. Retrieved from http://newmarket.wikidot.com/newmarket#toc4.

Boston Redevelopment Authority. (N/D). Regulatory Reform Creates New Organic Waste to Energy Business Opportunities. *GreenTech Boston*. Retrieved from
"http://www.greentechboston.org/tag/newmarket-eco-industrial-zone/%29"http://www.greentechboston.org/tag/newmarket-eco-industrial-zone/).

Boston Recycling Coalition. (N/D). Problems and Opportunities in Boston's Waste and Recycling Sector. Internal Document.

Bureau of Labor Statistics. (2012). Economy at a Glance. *United States Department of Labor.* Retrieved
from http://www.bls.gov/eag/eag.ma_boston_mn.htm

Carver, Liz; Kizer, Erin; Knight, Patrick; Rasputnis, Irina; Taso, Eugen; Veilleux, Neil. (2009). Wind and Waste – Diversifying Boston's Renewable Energies. Tufts University, Field Project.

Center for Ecological Technology. (1999). Strategies to Increase Food Waste Recycling in the Greater Boston Area. Page i. Retrieved from http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=

CDM Smith. (2012). Fatal Flaw Analysis for Development of an Anaerobic Digester Facility at Hamilton Landfill Site. *Feasibility Study. Town of Hamilton, Massachusetts.* Internal Document.

City of Boston. (2004). Roxbury Strategic Master Plan. Retrieved from http://www.bostonredevelopmentauthority.org/planning/PlanningInitsIndividual.asp?InitID=5&action=ViewInit

Coffee Grounds to Grounds. (2011). Anaerobic Digestion: An Alternative to Compost. Retrieved from http://groundtoground.org/2011/07/17/anaerobic-digestion-an-alternative-to-composting/.

Dudley Street Neighborhood Initiative. (2001). Solid Waste Task Force Strategic Plan Boston, MA. Internal Document.

Harvest, Power of Me. (2011). Capabilities. Retrieved from http://www.harvestpower.com/capabilities/

Harvest, Power of Me. (2011). Anaerobic Digestion. Retrieved from http://www.harvestpower.com/capabilities/technology/anaerobicdigestion/

Keene, Cindy Atoji. (2012). Food Waste Represents Opportunity for Eco-Manager. Retrieved from http://www.boston.com/jobs/news/jobdoc/2012/01/food_waste_represents_opportun.html

MassDEP, Executive Office of Energy and Environmental Affairs. (2010). Draft 2010-2012 Massachusetts Solid Waste Master Plan. Retrieved from www.**mass**.gov/dep/recycle/**solid**/capacadd.pdf

MassDEP. (2012). MassDEP Organics Subcomitte Meeting Summary. Retrieved from http://www.mass.gov/dep/public/committee/osc0412.pdf

McGlynn, William. (N/D). Guidelines for the Use of Chlorine Bleach as a Sanitizer in Food Processing Operations. *Robert M. Kerr Food & Agricultural Products Center.* Oklahoma State University.

Sellers, Sean; Asbed, Greg. (2011). The History and Evolution of Forced Labor in Florida Agriculture. *Indiana University Press.* Article DOI: 10.2979/racethmulglocon.5.1.29

Spuhler, Dorothee. (2012). Anaerobic Digestion (Organic Waste). *Sustainable Sanitation and Water Management.* Retrieved from http://www.sswm.info/category/implementation-tools/wastewater-treatment/hardware/solid-waste/anaerobic-digestion-organic-

U.S. Department of Agriculture, Economic Research Service. (2011). Household Food Security in the United States, 2010. (Table 1A, Table 1B) Retrieved from http://www.ers.usda.gov/Publications/ERR125/ERR125.pdf.

U.S. Department of Agriculture, Food and Nutrition Service. (2012). Monthly Program Data for October 2011. http://www.fns.usda.gov/pd/snapmain.htm

U.S. Department of Agriculture, Food and Nutrition Service. (2011). Characteristics of Supplemental Nutrition Assistance Program Households: Fiscal Year 2010. Retrieved from http://www.fns.usda.gov/ora/MENU/published/SNAP/FILES/Participation/2010Characteristics.pdf

U.S. Census Bureau. (2011). 2010 Annual Social and Economic Supplements from the Current Population Survey. Retrieved from www.census.gov/hhes/www/poverty/publications/pubs-cps.html

United States Department of Labor. (2012). Economic News Release. Bureau of Labor Statistics. Retrieved from http://www.bls.gov/news.release/empsit.nr0.htm

Van Opstal, Brian. (2010). Role of Anaerobic Digestion in Toronto's Organics Diversion Plan. Operational Planning Solid Waste Management Services. Retrieved from www.owma.org/lib/db2file.asp?fileid=859

Interviews

Zeppieri, Irene, personal correspondence, April 16, 2012.

Danesh, Ross, personal correspondence, April 16, 2012.

Lagunas, Cris, personal correspondence, March 20, 2012.

Pepali, Alex, personal correspondence, March 21, 2012.

Caruso, Jane, Sonoma Compost, personal correspondence, March 15 2012.

Loh, Penn, Personal Communication, April 9, 2012.

Henderson, Barry, Green for Life, personal correspondence, April 19, 2012.

Durkin, Christopher, personal communications, April 18, 2012

Silverman, Jennifer, personal communications, April 20, 2012

Walter, Douglas, personal communications, April 19, 2012

Butler, Dalen, personal communications, April 19, 2012

Edgar, Gordon, personal communications, April 19, 2012

Wool, Joel, personal communication, April 19, 2012

Additional Online Resources

Massachusetts Solid Waste Master Plan
http://www.mass.gov/dep/recycle/priorities/dswmpu01.htm

Massachusetts Global Warming Solutions Act
http://www.mass.gov/dep/air/climate/gwsa.htm

"Wind and Waste - Diversifiying Boston's Renewable Energies." Tufts Field Project 2009
http://ase.tufts.edu/uep/degrees/field_project_reports/2009/Team_2_Final_Report.pdf

Guide to USDA Funding for Local and Regional Systems.
http://sustainableagriculture.net/wp-content/ uploads/2010/06/6.18-FINAL-Food-System-Funding- Guide2.pdf

Harvest Power
http://www.harvestpower.com/

Composting in Restaurants and Schools: A Municipal Toolkit
http://www.cetonline.org/Publications/res-schools -online.pdf

Organics-to-Energy
http://www.mass.gov/dep/public/committee/macecorg.pdf

United Kingdom's Official Site on Anaerobic Digestion
http://www.biogas-info.co.uk/index.php/planning-comm.html

BioSystem Solutions
http://www.biosystemsolutions.com/solutions/composting_systems.html

Massachusetts DEP - Reducing Food Waste
http://www.mass.gov/dep/recycle/reduce/foodwste.htm

Deer Island, Massachusetts
http://www.mwra.state.ma.us/03sewer/html/sewditp.htm

Hamilton, MA
http://blog.harvestpower.com/small-town-considers-anaerobic-digestion-for-many-reasons/#comment-258

Recology
http://www.mwra.state.ma.us/03sewer/html/sewditp.htm

Recycling and Composting Ordinance San Francisco, California
http://www.sfenvironment.org/downloads/library/ sf_mandatory_recycling_composting_ordinance. Pdf

How Cities can Start a Food and Yard Waste Recycling Program
http://www.bae.ncsu.edu/topic/vermicomposting/ pubs/ag473-11.html